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LANG LANG
On a Mission From Mozart

pg 14

Hip RHODES Riffs and Voicings

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Phattest Phatty

YAMAHA U1TA
TransAcoustic Piano

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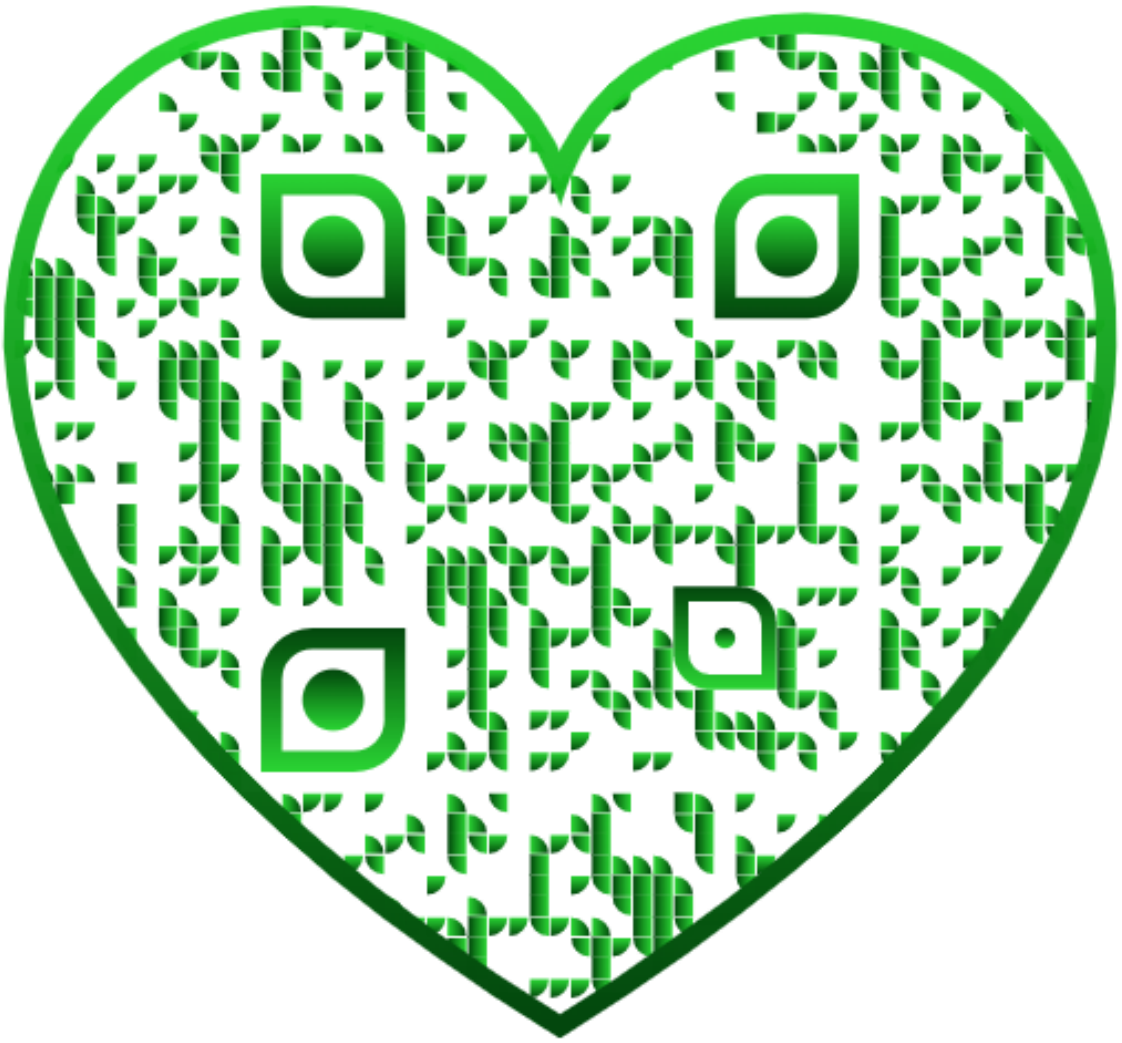

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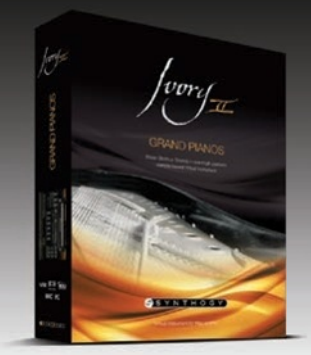

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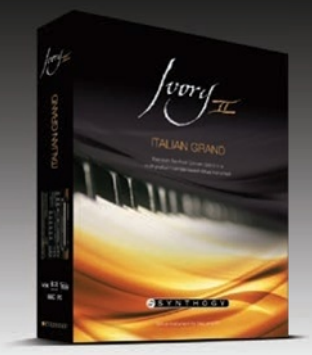

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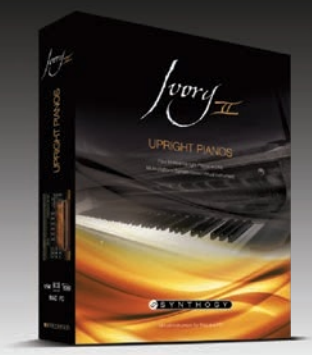

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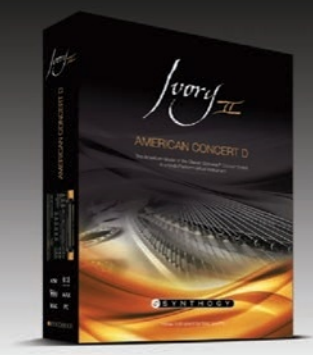
Upright Pianos



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CONTENTS

JANUARY 2015

Keyboard
STAGE SKILLS · STUDIO SMARTS

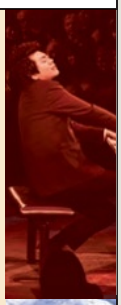
TALK

10 Voices, tips, and breaking news from the *Keyboard* community.

NEW GEAR

12 Our monthly wrap-up of the most interesting products from the keyboard, recording, and professional audio worlds.

HEAR



14 COVER STORY
Classical pianist **Lang Lang** is not only a revered artist but also an ambassador for global music education, and an advocate for the uniting power of music. Recently named a United Nations Messenger of Peace, Lang Lang talks about his childhood love of piano, ways to get students excited about classical music, and his latest release, *The Mozart Album*.

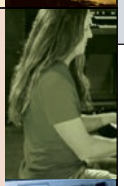
22 LEGENDS
Bruce Hornsby virtually reinvented himself for *Solo Concerts*, fusing modern classical, jazz, blues, and more into a new signature sound.

24 BREAKOUTS
Jazz-funk organist **Wil Blades** on his rhythm-first approach to playing the Hammond B-3

26 SINGER-SONGWRITER
Beth Thornley releases an eclectic new EP, *Septagon*.

28 TALENT SCOUT
Pianist and composer **Chip Crawford** finds his audience by accompanying Gregory Porter.

PLAY



32 BEGINNER
Our new **Key of One** column helps you understand music without conventional notation.

34 THEORY
Getting the **most out of your Rhodes**, whether it's vintage or virtual.

38 TECHNIQUE
Mastering **one-chord vamps** that excite the audience but leave room for the band.

KNOW

42 GIG HACKER
A veteran gigging keyboardist's method for **organizing sounds and charts**.

44 BEYOND THE MANUAL
Get inspired by **non-linear ways** to compose and record.

46 SYNTH SOLOING
Play in the style of **Steve Winwood**.

50 DANCE
Create great leads by **cutting and rearranging loops**.

REVIEW

52 SYNTHESIZER
Moog **Sub 37**

56 PIANO
Yamaha **TransAcoustic U1TA**

60 MIDI CONTROLLER
Korg **Triton Taktile 49**

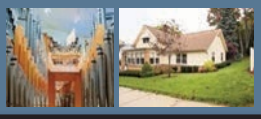
62 SAMPLE LIBRARY
Sonokinetic **Grosso**

64 APP
Wizdom Music **JordanTron**

CODA

66 Five things **Vonda Shepard** has learned about **preparing for a live show**.

Online Now!



Video: In Michigan, an ordinary house contains an extraordinary pipe organ.

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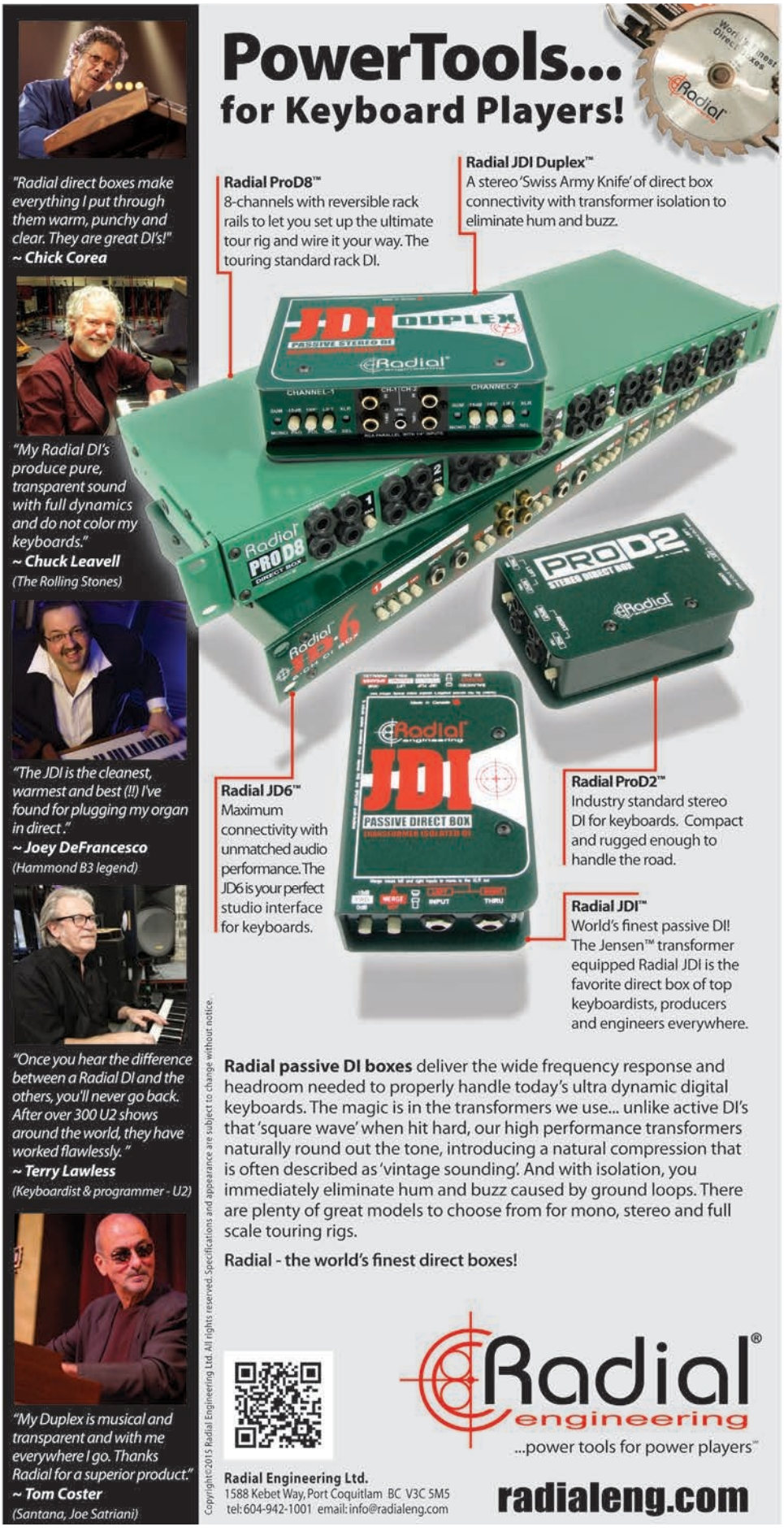

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Editor's Note

Specs. Everyone loves to talk about them, whether they're in the market for professional musical equipment or consumer electronics such as laptops, TVs, and smartphones. Marketers love to talk about them, too, unless their product is perceived (fairly or not) as having subpar specs, in which case they love to talk about why specs don't matter. Perhaps the best-known case of the latter is Apple's "megahertz myth" campaign circa 2001, which tried to counter the fact that Intel Pentium processors boasted faster clock speeds than the PowerPC chips used in Macs at the time. It didn't go well, and the lesson was that no matter how diplomatic and sophisticated a company's messaging is, telling consumers they're *wrong* about something is a lousy way to separate them from their money—even (and perhaps especially) if it's the truth.

The keyboard industry continues to face a similar challenge. The fact is, with dedicated hardware such as a synth workstation—which doesn't have the task overhead of a general-purpose operating system—you don't need anything close to the processor speeds or RAM amounts of even a top-end smartphone in order to achieve excellent musical results in terms of polyphony, multitimbral parts, and sound quality. But try telling that to a shopper who looks at the waveform memory of a workstation and thinks, "Can you even buy an SD card that small anymore?" Our perception of keyboards' prowess is being colored by the never-ending arms race of consumer electronics specs, and due to the economies of scale that determine what keyboard makers pay for components, dedicated hardware instruments that competed in this race would be very expensive even though they might offer minimal audible improvements.

Certain instruments manage to fly above this conversation, such as analog synths and DSP modeling-based keyboards that don't use samples and hence don't need memory in which to store them. But at risk of sounding like an industry shill, I'll ask that if you're in the market for any sort of hardware keyboard in 2015, evaluate it with your ears first. You're probably going to want a new phone or 4K TV as well, so there'll be plenty of opportunity to flex your specs macho.

Stephen Fortner
Editor

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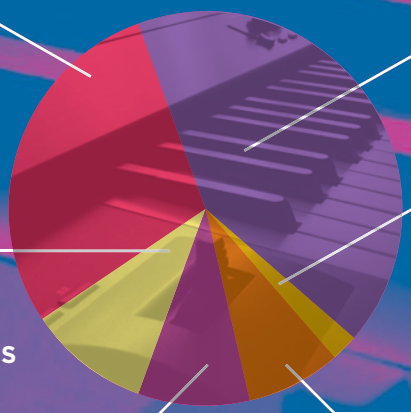
Key Secrets Frankentroller!

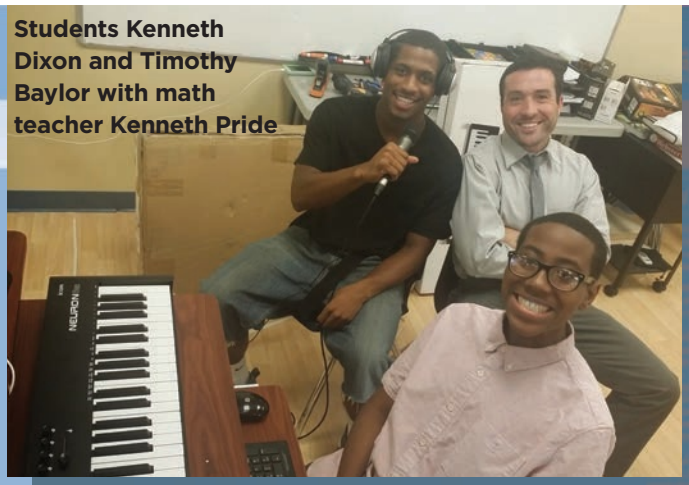
It's easy to make a monster soft synth controller by connecting multiple USB MIDI keyboards, pads, and fader boxes to a powered USB hub. (See my September 2012 column.) But good old five-pin MIDI offers lots of expansion potential, too. Connect the MIDI out from a synth keyboard to the MIDI in of a digital piano to get more control over non-piano sounds. (Hook up the synth's audio output and you can play layers or pure tones simply by changing which set of keys you touch.) MIDI'ing my Korg Kaossilator Pro to my Novation Bass Station lets me sweep out solos with my right hand while bending the pitch with my left—something the Kaossilator can't do alone. David Battino

THE Keyboard POLL

Q: WHAT FEATURE IS MOST IMPORTANT TO YOU IN A STAGE PIANO?



Polls rotate every two weeks, and can be found at the bottom of our homepage.



Students Kenneth Dixon and Timothy Baylor with math teacher Kenneth Pride

SCENE AND HEARD

ICON Benefits Learn4Life

It can be challenging for at-risk teens to complete a high school diploma, much less receive music lessons. Learn4Life's charter high schools make academic and music education available to Southern California teens via an independent study program that incorporates music and dance seminars headed by instructor Gonzalo Ruelas. Recently, thanks to equipment donated by music gear maker Icon Digital, Ruelas has added a well-equipped music technology program. Icon provided Neuron, iKey, and iPad keyboards, MicU Solo interfaces, plus microphones and monitors for three of L4L's independent-learning high schools (Diego Valley, Diego Hills, and Desert Sand Long Beach). Icon also helped the school connect with Ableton and Magix, which in turn offered discounted equipment to flesh out the classroom workstations. "We have a lot of kids who are into expressing themselves this way," Ruelas says. "Using this equipment hands-on, they see that it's possible to go to the next level and study audio engineering in college, and maybe even make this their career." Barbara Schultz

+ 30 YEARS AGO TODAY

Our first issue of 1985 featured avant-garde jazz pianist **Cecil Taylor**, who offered a philosophical view of the world of music-making: "All work is built upon the continuing aesthetic experience. One adds to the body of the work; the forms change in themselves, by themselves." Meanwhile, Brit-pop band Re-Flex's Paul Fishman gave readers a detailed account of developing synth sounds for the new wave hit "The Politics of Dancing." In a time when keyboard and recording technologies were beginning to converge, this issue also introduced the tech expert columns "In the Studio," "Modifications and Maintenance," and "The Piano Technician." We also reviewed E-mu's Emulator II digital sampling keyboard and the Akai AX80 synth. Barbara Schultz

My First Hammond Gig. Tony Monaco

Though Tony Monaco first discovered Jimmy Smith at age 12, the jazz organ virtuoso didn't get his hands on the Hammond organ itself until three years later, when he entered eighth grade at St. Michael's Catholic School in Ohio. "Knowing that I was a keyboard player, I was asked if I was interested in playing the organ for Sunday masses," recalls Monaco. "One of the nuns escorted me to the choir loft to show me what music to work on and, of course, the organ." The axe in question was an early 1960s C-3 with a Hammond tone cabinet. "Inside I was freaking out," continues Monaco. "I wanted to get my hands on it so bad! I was still playing a Cordovox at gigs." Monaco was allowed to practice on the C-3 every day at lunch time, since he didn't have access to a Hammond at home, but his real training began once congregants gathered every weekend for prayer. "While the offertory basket was being passed around, I had to play soft music preceding the hymn," Monaco says. "I didn't know what to play, so I played slow blues tunes like Jimmy Smith's 'The Sermon' or Horace Silver's 'The Preacher' and ballad standards like 'Flamingo,' or even 'Lover Man.'" Untraditional repertoire for a Catholic mass, perhaps, but Monaco's playing was a hit. "I think the priest was into jazz, because he's always look up to me and smile," says Monaco. "I kind of built up a noon mass following!" To hear Monaco testify on the Hammond circa 2014, check out his latest release *Furry Slippers.* Learn more at b3monaco.com. | Michael Gallant

NEW GEAR

BY STEPHEN FORTNER

MOTU 24Ai and 24Ao

The two latest computer recording interfaces from MOTU take an interesting turn: One is focused on input, the other on output, and both are strictly line-level. Why would you go this route when most mid- to high-end studio interfaces offer a combo of mic preamps, line-level ins, enough outputs to run at least a couple of pairs of speakers, and headphone jacks? Because you already have one of those and it's not enough.

Anyone with a large collection of hardware synths and a mixerless studio has dealt with re-patching. With 24 analog inputs on D-Sub or Phoenix (a.k.a. Euroblock) connectors, the 24Ai lets you leave everything (okay, up to 12 synths in stereo) plugged in all the time.

If what you want are lots of "tape returns" for analog mixing or summing—or intense surround applications—the 24Ao is the box for you. Both models have three banks of ADAT lightpipe ins *and* outs, and connect via USB2.0.

Both include a DSP-powered 48-channel virtual mixer with gating, dynamics, and four-band parametric EQ on every channel. For workgroups, they can link to compatible MOTU interfaces via the AVB (Audio-Video Bridge) protocol over Ethernet, when used with a MOTU AVB switch. Other than the analog input versus output difference, the 24Ai and 24Ao are identical, down to the real-world price of $995. | motu.com

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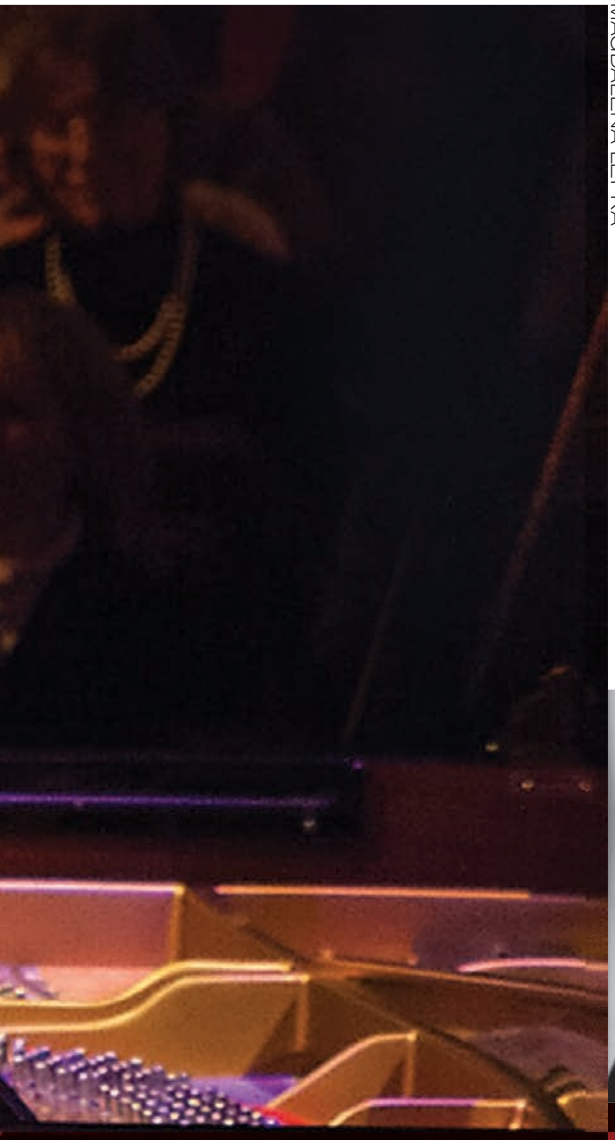
BY JENNIFER CARPENTER

INTERNATIONALLY ACCLAIMED PIANIST LANG LANG HAS ACHIEVED EXTRAORDINARY ARTISTIC success. He had played with every major U.S. orchestra by the age of 20, was the first Chinese pianist ever to perform with both the Berlin and Vienna Philharmonic orchestras, and has given command performances for world leaders across the globe—including a White House state dinner in 2011. His performing with artists in other genres—including Herbie Hancock at the 2009 Brit Awards, Metallica at the 2014 Grammys, and Psy at the 2014 Incheon Asian Games—has also put a fresh and fearless face on classical piano.



MAGDALENA LEPKA

He's also as impassioned an educator as he is a performer. His performance at the 2008 Olympics in Beijing inspired literally millions of children in China to begin learning classical piano—a phenomenon dubbed "the Lang Lang effect." That same year, he launched the Lang Lang International Music Foundation, which provides music education opportunities for children around the globe. In 2009, *Time* magazine named him one of the "100 most influential people in the world." Now only 32, his combination of virtuosity and outreach has made him the new millennium's de facto ambassador of classical—a Van Cliburn for today's smaller and hyper-connected world.

Born in Shenyang, China, he was inspired at age three to study piano after watching a *Tom and Jerry* cartoon, where he saw Tom play Franz Liszt's "Hungarian Rhapsody No. 2." At age five, he won his first competition. After experiencing heartbreak at the age of nine, when his teacher refused to continue his lessons, he recovered his childhood ambition of a piano career when he discovered Mozart. His latest CD, *The Mozart Album*, is a collaboration with conductor Nikolaus Harnoncourt and the Vienna Philharmonic, as well as a collection of some of Lang Lang's solo performances. *Keyboard* sat down with Lang Lang to capture his reflections on Mozart, collaborations, music education, and what it means to him to be a United Nations Messenger of Peace.

HARALD HOFFMANN

ON THE MOZART ALBUM

How did your collaboration with Nikolaus Harnoncourt and the Vienna Philharmonic come about?

I met Nikolaus in 2007 at the Salzburg Festival, and I played a Goldberg Variation for him. He gave me a lesson on it, and I just really fell in love with his art and his interpretation—liberal, but very classic. And then we started to talk about the possibility of working together. We played with the Vienna Philharmonic in 2010 at Carnegie Hall and we did Beethoven Number 1. The concert really surprised a lot of people because they think he and I together would be kind of a weird pairing. But actually it was a really incredible concert. Then we decided to do a recording of Mozart. First he asked me, "Can you do it on a period instrument, like a harpsichord?" I said, "No, no. I've never played the old instruments in my life. Let's do it on a piano, but we can do it in the style of the period instrument. "Then we started to look into the recording schedule. I'm so grateful because we had such a nice four days—every day, six hours of work. At age 85, Nikolaus stood there the whole time, and gave me everything in his mind. I'm deeply appreciative and deeply inspired by him. It was, for me, the best recording session ever. He really inspired me to play better.

How do you use your imagination when you play Mozart?

A lot of people say Mozart is very easy for kids but difficult for adults. The truth is, it's very difficult for kids and it's even more difficult for adults! I always wanted to play in a very elegant style, but when I was a kid I couldn't do it because I didn't have the finger control. So then over the years, I've worked with many musicians on Mozart: people like Eschenbach, Daniel Barenboim, my piano teacher Gary Graffman—so many great pianists. A lot of conductors gave me great ideas, too. So now I think when I play Mozart I have an idea of what kind of interpretation I want to do. But still, the Harnoncourt interpretation is very rare because he brings the countryside of Salzburg to it. Mozart is such a liberal composer musically, but he has such a taste of tradition, which makes him very special. One of the keys to play Mozart is, the left hand is like the roots of the tree. You need to have a very solid left hand. The right hand is the leaves. Also, one of the secrets of playing Mozart is to swing—always swing his music.

"Mozart's music really seems like God wrote it through him."

Why did you choose those particular pieces—those early sonatas and the concertos?

Actually in the beginning we just liked to do a concerto album and I chose one major concerto, the *G* major. And then I chose the minor concerto to have the contrast. And then I thought, maybe we should make a Mozart album instead of just a concerto because I'm also playing the three sonatas this year as the whole entire first half [of my concerts]. So then we did this. And then I thought, let's have some fun with it. So I also put in the "Turkish March" and some small pieces. So, it turned into a Mozart album.

What drew you to Mozart as a child?

In the very beginning, Mozart was my idol because he was like a fairy tale to me. He composed when he was three; when he was five, he had already composed operas. He's the perfect example for all of us to learn music and, frankly, the best composer for babies to listen to prebirth. I even had a toy called Baby Mozart. Then, the way he played for the royal king and the queen, at only seven years old, traveling on the carriage everyday—like a fairy tale.

Where do you think Mozart's real genius lies in his piano repertoire?

It looks very simple, but everything is there. Sometimes you see the simplest words in a great novel, and Mozart is like that. [*Hums melody.*] It's so easy to remember. Later, Chopin copied a little bit—not copied, but followed a bit—with these very liberal melodic lines. But when Mozart touched a little harmony, it changed the whole thing. It's as if you see a cloud coming, then you see little tears falling down. He's so detailed. His music really seems like God wrote it through him. When you see his handwriting, unlike any other composer, it's perfect. I've never seen such a thing in my life.

ON LIVE PERFORMANCE

You play as many as 120 concerts per year. Do performances ever lose their excitement for you?

Every concert is different. This week I will play in St. Louis and then next week I'll play with the New York Philharmonic, and then I'll do the United Nations concert, then a recital on Long

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Island. And I'm going to open the Louis Vuitton museum in Paris. Every concert is a new challenge. So in a way, I like it. If I don't get a stiff neck, it's fine [*laughs*]. The challenge is when you do it night after night. Last week in Cleveland I did three different concertos, four nights in a row. The first night was the opening and the third night was a gala, so they were very demanding concerts. That's hard for me. But other than that, if you always have one day's break in between it's no problem.

HARALD HOFFMANN

Does having an audience in front of you fuel your fire?

Sometimes you actually feel the excitement. Sometimes you feel that they're breathing together with you. You can feel that your music, the other musicians onstage, and the audience have become one. That's the best feeling.

When you were studying in Shenyang, there were professors present from the Eastman School of Music. Did hearing Westerners play for the first time affect the way you played?

When I was about five-and-a-half, I saw foreigners play piano for the first time. It was really wonderful because in the summer of 1988, that festival came to my hometown; and it was a very, very intense ten days. Every day I'd wake up at, like, six. It was the first time I heard someone play jazz from the U.S. Then also I heard Nelita True and Fernando Laires, who are wife and husband. They came to my hometown. They played four-hands music together on two pianos. I remember one thing Fernando said that's so important: Being a pianist is very easy; you just move the fingers. But to become a great pianist, you need to move the heart, mind, and everything else. He said, "So it's your choice. You want to just move the fingers and become a pianist, or do you want to become a *real* pianist?" And I remember the most touching moment. Ten years ago I went to the Eastman School because of the Rochester Philharmonic, and they came to me with this old picture. It was me, six years old, taking a picture with them.

"Sometimes you feel that they're ***breathing*** *together with you. You can feel that your music, the other musicians onstage, and the audience* ***have become one."***

What was your reaction?

I said, "Your visit to China really made many musicians, like me, follow this ride." Maybe 25 years ago when they came to China, they didn't think about who they were going to inspire. Maybe they thought they'd just have a good time and share music. But they actually inspired a whole new generation, like Isaac Stern did in China for [the documentary film] *From Mao to Mozart*. It was a little, simple visit for him, but it changed the whole music circle because then he brought Chinese musicians to study in Europe. It really changed the world of it.

CLASSICAL MEETS JAZZ . . . AND METAL

We've been featuring Herbie Hancock since *Keyboard* magazine began. How has your relationship with him influenced you?

He is absolutely one of my absolute favorite musicians in the world, period. He gave me the confidence to play a little bit of jazz. Before him, I was just so afraid of playing. The first time I met him, Herbie said, "Do you play a little bit of jazz?" I said, "Yeah, but Herbie, in front of you, I don't even want to say the word!" He said, "You shouldn't be afraid. Let me show you some tricks. Give me a piece." So I played him a Gershwin piece. He said, "Let me do something for you," and he started playing, separating the chords, changing the rhythm. He changed the whole thing—it totally opened up. I started playing a little like he showed me, and he was on the other piano. He said, "Now I'm going to add beats." Then he took me to a jam session. Esperanza Spalding, the beautiful, great bass player and singer, also showed me some things.

We also played classical music. We played Ravel's "Mother Goose Suite"—a four-handed thing. We also tried Vaughan Williams, the British composer. We had three big tours together: Europe, Asia, and the U.S. It was so successful that every place we went, we were asked to play a second show. We've also recorded "Rhapsody in Blue" together, but we haven't released it yet.

How do you think the classical community received your 2014 Grammys performance with Metallica?

In the beginning, everybody was so scared, including myself. I was like, "Oh my, this is heavy stuff!" But afterwards, people said positive things, because they thought it was a very adventurous but good work in the end. I think "One" is a very good piece. It was fresh for classical music fans and heavy metal fans.

ON MUSIC EDUCATION

Could you say a few words about what's come to be called the "Lang Lang effect"—people

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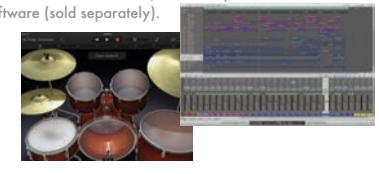

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In video clips of the master classes, it's striking how young the kids are.

I know—to play like that. We've started three schools in America: two in Boston, and we just started a school in Harlem, New York. We build the classes, hire the teachers, and we donate something like 40 keyboards so they can practice. The piano—the keyboard—has gotten so popular that they're fighting for practice time. It's so great, because every one of them will learn music and will do something. So for the United Nations concert, we're bringing 80 kids from all over the world. This will be a lot of work for our foundation. We only have about four people [on staff]; we're going to work like hell!

You've built music programs, some from the ground up, in communities that don't have resources. Have you had to convince people that kids need piano?

Actually, we're getting letters from so many schools about what we call our Keys of Inspiration class. They all want to be part of it. We just need to select the ones that really need it. [The program] is only six years old and we have an almost three million dollar budget. So we can do a lot, but we still need to be very careful because we want to build a method. We want to build a whole system, so we want to start with only a few schools. Once those are successful, we can use our method in more schools. So we save energy, we save money, and we have a system.

How would you advise music teachers to engage students who aren't initially interested in classical piano?

First of all, don't be afraid of classical music. I had high school here in the U.S. I knew exactly what my classmates were thinking about. They'd ask, "What are you doing here in America?" I'd answer, "I'm here to study piano." "You mean Elton John?" I'd say, "I like him, but I'm talking about Mozart and Beethoven." "Oh my God, that's, like, *totally dead*, right?" I'd say, "Just like Shakespeare, it never dies. It's classic." Then I'd I play a little bit for them and they'd say things like, "Hey, I know this tune! That's classical music? I thought that was Michael Jackson." When they hear it, they actually like it. So it's just the way you bring it to them.

How would you describe your own teaching approach?

Before every piece, I'll try to do some personalizing: "Listen for the thirds, listen for the climax, listen to the happiness." I want to highlight something that they should listen for, rather than just play it flat. Last week I was in Akron, Ohio. I played for LeBron James' school. We did a joint venture together for sports and music—a lot of athletic kids and a lot of performing arts kids came. One boy who was only nine or ten said, "I have a piece. It doesn't have a name. Can I play it for you?" He starts playing a beautiful piece and then he said, "Do you think you can give me a name for this piece?" I said, "Okay. Maybe you should call this 'A Starry Night' because it [evokes] such beautiful stars and such a universe." I want kids to get involved. I want them to play, not just talk. Music is like language but you must play it. You can't only talk about it. That's why in Long Island next week I'm playing with 100 kids together. It's called "101 Pianists." Everybody will play four-handed music, on 50 pianos. I want them to practice with a partner, like doing homework. For pianists, the difficult thing is, we're alone so much every day. It's just you and a piano. You don't want that all the time. You could become a nerd! [*Laughs.*]

Having won your first piano competition at age five, what advice would you have for a young person who's about to compete?

I was a competition freak when I was a kid. I thought it was all about winning. Of course, that motivated me to practice, because I wanted to be number one. It's like an athlete's competitive spirit. But at the end of the day I realized that music is not a war. Music is something that inspires. You do need to have a fighting spirit—keep going, never give up. But it's not just a race. You need to have the precision, perfect technique, beautiful musicality. So, I would say to kids, keep that fiery spirit, but don't take the results of a competition too seriously.

Where do you think music education is going in the U.S. as compared with China?

They're quite different. In China, we're not worried about general music education because most of the schools have music classes and most of the kids play an instrument—maybe not everybody, but the majority plays. And classical music means something in China. It means you've had a good education and a good background.

Here in the U.S., it's different. Studying classical music is a little bit out of fashion. Maybe 100 years ago, the U.S. was kind of like China today. Now, everybody wants to have a guitar but not a piano. But talking about music in general, the U.S. still has the biggest market—and it was my first market, the first place I became successful. I'd say we need to improve the public schools' music classes; if we can do that, education really changes everything.

How would you encourage a musician who's struggling career-wise?

That's a difficult question because, on one hand, we want everybody to keep practicing, to keep their dreams alive. But on the other side is reality: There are not that many professional pianists on the international stage, and the truth is, not everybody who wants to will become a professional pianist. So I would say, "Work hard, but keep doors open." You can be the best teacher. You can be the best tutor. You can be the best lecturer. Or you can have a school. There are a lot of things you can do. You are still a successful person.

Tell us about having been named a United Nations Messenger of Peace.

I must say, this is probably the biggest honor of my life. Recently, I saw Leonardo DiCaprio just became a Messenger of Peace as well. We're actually friends. To work with people like Leonardo or George Clooney or Stevie Wonder or Queen Noor of Jordan, it's really something where you can synergize the power of different people. This year for our U.N. gala, we have Alec Baldwin hosting, and Secretary General Ban Ki-moon is master of ceremonies. Sting is our special guest, and we'll also have 80 kids from all over the world. But I want to do real things. Afterwards we'll have a fundraiser. Our goal is to raise a million dollars for global education and music classes. "Messenger of Peace" is not just a title.

What has been the happiest piano moment in your career to date?

As a professional pianist, it would be when I finally played Carnegie Hall or Vienna. But as a person, the happiest moments are when I'm working on the foundation, with the U.N., and for children. I'm going to St. Louis this coming Friday to do a concert for kids who are in the hospital. That's the best moment. ♫

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MUSICAL REINVENTION ON *SOLO CONCERTS*

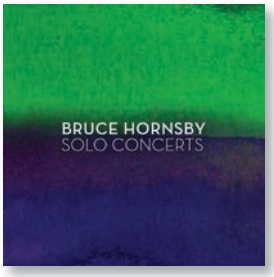
BY JON REGEN

"WHEN I TURNED 40, I ASKED MYSELF, 'AM I JUST GOING TO REST ON WHAT I'VE DONE IN THE PAST?'" says BRUCE HORNSBY. "I mean, most of my friends do that, frankly. Or was I going to try and take things to the next level and re-dedicate myself to the piano, which meant spending three to four hours a day more than I was already spending at the instrument. I chose the latter."

One listen to Hornsby's new double album *Solo Concerts* and the fruits of his labor are apparent. The musician who shattered stylistic shackles with his genre-blurring hit "The Way It Is" some 30 years ago is doing it again, this time blending contemporary classical, pop, blues, and more into a sound all his own.

When we last spoke in 2009, you told me you'd become increasingly interested in 20th Century classical composers. On *Solo Concerts*, it seems as if those sonorities are becoming an even greater influence.

Well, I was interested in that music from the time I was 19 years old, when I attended Berklee. I used to go the Boston Public Library, where you could check out records just like you could books. I used that as a great excuse to immerse myself for free in a bunch of music that I had heard *about*, but had never really *heard*. And so I got really into Ives, Erik Satie, Maurice Ravel and the French impressionists, and some things by Aaron Copland.



It's true that in the last ten years, I got much more interested in this music, and that's totally due to my 2003 signing with Columbia Records. I'd lasted 18 years and weathered *seven* presidential regimes at RCA, but the eighth president, Clive Davis, took one look at me and said, "You know what? I don't think so." And so he dropped me, but Donny Ienner at Columbia wanted to sign me right away. So I signed with them and put out five records in the span of about five years. One of the great perks of Columbia was that they let their artists basically *raid* their vault for free. I had them send me

something like 177 CDs. Things like *The Complete Webern* conducted by Pierre Boulez, and almost all of pianist Glenn Gould's records, where he was playing modern classical composers like Schoenberg, Webern, and Alban Berg—what they call the Second Viennese School and the twelve-tone era. That gradually led me into works by Ligeti, Carter, and Messiaen—so many of the composers that I'm throwing into the mix on *Solo Concerts*.

How did this influx of new composers affect your compositional work?

Getting deeply involved in this music on a playing level definitely started to influence my writing. When I started writing music for our play *SCKBSTD* ("Sick Bastard"), I used the experience of writing for musical theater as a license to sort of take things "out" on a harmonic level. Several of those songs are represented on this record, and they also happen to be some of my favorites. "Where No One's Mad" is a perfect example. It's a bi-tonal pop song. I also played Elliott Carter's "Caténaires," which is a perpetual motion piece that has that kind of acrid, astringent harmonic language that I've been enjoying putting into my own songwriting.

What was it that pushed you to start digging deeper into the piano?

The thing is, I was always moving forward. My first two records were of a certain sound that the masses know me for. But a perfect example of me pushing ahead was the album *Harbor Lights*, where I started using the jazz language much more. The same thing was true on *Hot House*, with all the great guests—Pat Metheny, Branford Marsalis, Bela Fleck, and on and on.

In November 1994 I turned 40, and that was the time for me to reflect on areas of the piano I hadn't fully explored. Things like two-handed independence. [Previously] I'd hear Keith Jarrett's solo concerts or even his band records, like the album *Belonging* with his European quartet. On it, the song "The Windup" has a fantastic little left-hand ostinato, and Keith has this ability to play incredibly freely in his right hand while continuing to nail that pattern in his left. So I'd try my hand at that and do my own half-assed version of it, thinking, "This takes a lot more time than I'm willing to commit." Even if I'd wanted to, I'd had a full plate of gigs and appearances—all the things that coincide with a career that's going well. But when I turned 40, I knew I wanted to dig deeper into the possibilities of the piano.

So in January of 1995, I called up two local groups: the Chesapeake Bay Foundation and the Special Olympics. I told them, "Hey, this is Bruce Hornsby and I'm going to do benefit concerts for you in May. How do these dates and these venues sound for the shows? All the money goes to you." My idea was to use these gigs as something to shoot for. So I told my wife, "I know this is a drag for you," because she thought I spent too much time in the studio already! But I said, "Just give me these next four months and we'll talk about it when these gigs are over." After the first concert for the Special Olympics, she came backstage with tears in her eyes and said, "I'm so glad you did this. It's such a new level for you." She got it right away.

Your new album *Solo Concerts* starts with "Song E (Hymn in *E*♭)" which seems to encapsulate much of your pianistic persona in two minutes. Can you tell us its story?

You mentioned the first song on the record, the Hymn. For years, people would say to me, "We know it's you when we hear you. It's fairly identifiable, but how would you describe what you do?" So I finally came up with this easy description, which is "Bill Evans meets the Hymnal," because I like the old churchy chords with thirds in the bass and the bass moving around, but I also love the Bill Evans voicings that really come mostly from Ravel and some of the French impressionists I mentioned earlier. So "Bill Evans meets the Hymnal" totally describes that first piece. And then I take a left turn from there, but it all holds together because the second song "Preacher in the Ring," along with all the modern classical intrusions on it, is about the snake-handling congregations of Appalachia.

You've been using the Moog Piano Bar to control soft synths from the piano and expand your sound palette beyond piano and voice, like on the new song "Invisible." What is it about the combination of acoustic and electronic timbres that you find so alluring?

It all stems from the fact that I always hear an orchestra playing in my head. Not on all the songs, but often on ballads, like "Mandolin Rain," "Here We Are Again," and "Continents Drift." If I'm playing bluesy, you're not going to hear any MIDI, because I'm not hearing an orchestra in that stylistic setting. But "Invisible" is a perfect example of dialing in the Bob Moog. I've done a lot of solo concerts over the years where I'd show up in a new town to a piano supplied by Steinway. But it wasn't MIDI'ed, so originally I'd put a Korg M1 on top, playing it with one hand and the piano with another. I used the sound "Overture," which I came to find out that my old friend Bruce Springsteen used as well.

You play some familiar hits on *Solo Concerts*, but not as they were recorded originally.

Familiar *sort of*, but unfamiliar in other ways. "Mandolin Rain" for example, is like a totally different song. It has the same words and the same sort of melodic arc, but it's in a minor key. It was born from a *D* minor jam back in 2002 and I've played it that way ever since. When I played it for Ricky Skaggs in 2005 when we were making our first bluegrass record together, he said, "Please, can we record this?" So the first recorded version of it was with him. To me, it's a much deeper song in a minor key. I'm not against the original version—we still play it that way with the band and I like it a lot. But I prefer to play it this way for solo concerts.

What's the story of the folk version of "The Valley Road"?

In 2011, I played the Bonnaroo festival in Tennessee, and along with my band set, they asked me to play a dulcimer set on their small singer-songwriter stage. As I was working on songs for the show, I started playing an old folk song called "Drunken Hiccups" that I've played for many years. During one section, there was a little melodic motif that inspired me to start singing, "Walk On, Walk On, Walk On" over it. That led me full force down the path to where I ended up playing a 6/8, waltz-time, folk version of "The Valley Road," which has become ours and the audience's favorite version of that song. [The audience] will probably hear these versions and think, "What's this? That's not what I was expecting." But maybe that's my job: to play the unexpected.

Is that the secret to a long and interesting career? Never stop digging?

Never stop digging, but also, always be open to creation in the moment. Whether it's with my band or solo, my whole approach has always been improvisational, and that goes all the way back to when I studied with our mutual piano teacher Vince Maggio at the University of Miami and got my degree in jazz. I don't mean just on a solo level as a guy who can play through chord changes. That's fine, but that's really not the deepest improvisation. I'm talking about the organic process where the *reinvention* of songs happens, like the minor key version of "Mandolin Rain," or the bluegrass, shuffle version of "The Valley Road," which is akin to the way I used to play it with the Grateful Dead. Now there's an even *newer* version of that song, which again illustrates how important it is be open in the moment.

So I guess I'd say, just have an open mind when you play. Frankly, being a little restless doesn't hurt either. I've never been much for playing things the same way—that seems kind of like a creative prison. Try to stay out of that prison and continue to be open to new inventions. ♫

Watch Bruce Hornsby play "Preacher in the Ring."

keyboardmag.com/january2015

WIL BLADES

WANNA BLAZE ON B-3? LISTEN TO DRUMS AND BASS.

RYAN HUGHES

BY STEPHEN FORTNER

EVERYWHERE YOU LOOK, THE HAMMOND ORGAN IS BACK. ENTHUSIASTS might argue it never went away, but mainstream awareness of the mighty instrument has definitely passed a tipping point. It's a *thing*, and we can certainly place part of the blame on San Francisco Bay Area jazz-funk organist Wil Blades. After a show at Oakland's Duende, where his duo played a round-robin marathon alongside Jacob Fred Jazz Odyssey and Seattle-based McTuff, we talked with Blades about his roots as a drummer, his new album *Field Notes*, and the importance of one-on-one musical mentorship.

What was your point of entry into Hammond organ?

I grew up playing drums and guitar. So, from a really early age, like eight, I've always had this really strong feeling for rhythm and groove. When I started to become aware of the Hammond, part of what I noticed was how percussive it was, and that's what really got me into it. In high school I started playing guitar. I got into Hendrix and Pink Floyd, Santana—a lot of that stuff.

Early Santana with Gregg Rolie?

Yeah, the sound he got on those records was *insane*—a real dirty, gritty sound. I became obsessed with the sound of the Leslie changing speeds. I went down the rabbit hole from there and started checking out Jimmy Smith. This was around '95 to '96. It kind of coincided with Medeski, Martin, and Wood hitting the scene, and the way those guys combined elements of electronic music—like drum and bass and jazz and funk music—was [another] one of the things that really got me into it. And then just checking out Jimmy Smith and going back from there to

Jimmy McGriff and Jack McDuff, then Dr. Lonnie [Smith].

Did you own a vintage Hammond first, or a portable clone?

I just went straight for the real thing. I bought an M3 at first and was just toying with it. I wasn't seriously trying to play it. I got into it more when I moved to Oakland from Chicago. I bought a C-3 when I got out here and got this weekly happy hour gig at the Boom Boom Room [an iconic San Francisco nightclub opened by John Lee Hooker]. They have a B-3 and two Leslies. Now, the C-3 lives at home, my road organ is an A100 through a modified Leslie 770, and for one-off gigs where I don't want to carry that much, I just ordered a Hammond SK2.

In one tune at your show, your right hand was going *way* outside the beat along with the drummer's improv, but you kept a left-hand bass line right in the pocket. How did you develop that level of hand independence?

A lot of people talk about independence, but I try to think about it not *as* independence but as one thing. That definitely comes from my experience playing drums, from learning a beat and not thinking about it as four separate limbs. I know that's the term that people use, "independence," but I like to think about it as a unity in which everything locks together.

I do like being able to play behind the beat or push the rhythm. So one thing I've been real conscious of—not only by playing with a metronome but also on gigs—is really trying to keep the left hand steady and intentionally pull the right hand way behind the beat, or ahead of it. I'm not claiming to be a great drummer, but playing drums for so many years helped my coordination on the organ rhythmically.

Do you still play drums actively?

At a certain point, I started practicing drums again after not playing for a while, and partially just through osmosis, it tightened up my organ playing a lot. My bass lines started getting a lot more solid, for one thing. I've always liked the ability to play with rhythm. I've always tried to play bass on the organ with a chip on my shoulder—meaning, I don't ever want anyone in the band to feel like they're missing something because I'm the bass player doing it on the organ. I want them to feel like they *have* a bass player, not a keyboard player trying to play bass.

On that topic, what bass players have influenced your left-hand bass style?

Sam Jones, Butch Warren, Paul Chambers, Percy Heath, and Herbie Lewis, who I got to study with at the New College of California. I got a lot of one-on-one time with him and learned a lot about quarter-note swing and walking bass lines. When I was younger, I played with a lot of local, older cats—Henry Oden, Charles Thomas—and really listened them playing behind me. As far as electric players, James Jamerson is obvious—I like that midrange, old-school sound. Also, Bootsy Collins from the James Brown era.

You also *play* the drawbars, going through a lot of registrations from sparse to full. Is there any sort of roadmap to that?

I think that when I'm playing in a duo, I do a lot more with the drawbars than I would, say, in a trio or larger group, because I'm trying not to have the organ sound boring. But also it's just thinking of orchestration, which is a concept from most of the jazz organ players, dating back to Wild Bill Davis and all the way up to Dr. Lonnie Smith—viewing the organ as an orchestra and having all these different timbers and textures you can get.

What do you think of the whole jam band phenomenon?

The jam band thing is funny because I think it describes the audience more than it describes some of the bands. Like Medeski, Martin, and Wood. I never saw them as a "jam band," especially when they first came out. They're an avant-garde jazz funk band. They just happened to catch the jam audience.

In the context of your question, I lean toward stuff that's more groove-oriented, but also more about harmony and not just straight up one-chord funk vamps with a head. I've been trying to interject some harmony, even if it's over a static groove—just viewing it as a pedal point and putting some harmony on top of it. More and more, I just like to hear movement.

Can you name a jazz composition you like because it's harmonically interesting?

There are so many compositions, but one artist like that is Herbie Hancock. He really maintains the balance of heart and head, which is what I really dig: people who have a lot of soul but their music gives you something to chew on intellectually as well. In terms of interesting harmony happening over static grooves, I'd say Miles Davis as well, certainly.

On your latest record, *Field Notes*, there's a bit of Miles-ism in terms of voice-leading and harmonic motion over a groove . . .

Actually, around the time that I was thinking out this project, I was listening to a lot of *Live-Evil* and the complete *In a Silent Way* sessions—a lot of stuff from that era where he was just getting into that. Miles has always been a huge influence on me. The older I get, the more I appreciate his sense of melody, his sense of phrasing, his sense of space, and just his concept in general.

You recorded *Field Notes* at Ex'pression College in Emeryville, California, as opposed to a commercial studio. Why that choice?

A friend of mine, Andrew Freid, who is the head sound engineer at the Boom Boom Room, was a course director there. The Billy Martin duo record [*Shimmy*] was also recorded there with the same engineer. They have the [Endless Analog] CLASP system there, so you can record through Pro Tools to tape. I was really happy with how the Billy Martin album came out sonically. So when I did this record I hit up Andrew again and we did it the same way, to tape using CLASP.

Also, both records were recorded with no headphones—just live in a room. I'm not a huge fan of separating everything. I feel like a bit of bleed gives you this glue that makes everything sound not so sterile. And I'm totally psyched with the way this record sounds. Andrew did an amazing job. The organ bass is super clear, which is hard to get right.

How do you feel about formal musical training?

I have no formal training on the organ, per se. When I started in the late '90s, the Internet was still so young. There was no YouTube to check out artists' playing or instructional videos. I was left to figure out stuff on my own from records. So I developed an ear through that. Then Dr. Lonnie Smith became a mentor of mine—I'd ask him questions after gigs and he'd sit me down and show me things.

I've had this unintentionally old-school education where even though I went to school, my teacher Herbie Lewis came up through a time when there wasn't jazz education. His best friends growing up were Billy Higgins and Bobby Hutcherson. You just played and learned stuff off records. So when I was studying with him, it was just listening to records and him making us play a song for three hours until we got it right.

So it was trial by fire, really.

There are things you learn from the old mentorship style that they don't teach in school, like being onstage and seeing how a bandleader manages everything from the music itself to the pacing of the set list. Things like really knowing how to build a show and interact with the audience. That stuff is unfortunately not really dealt with in the jazz conservatory, which I think is why some jazz players are struggling in the live world. People get out there and they don't know how to deal with an audience. I don't think there's anything wrong with going to school. But there needs to be some sort of balance where students get more of that one-on-one mentorship. ♫

Stage gear tour with Wil Blades, Brian Haas, and Joe Doria.

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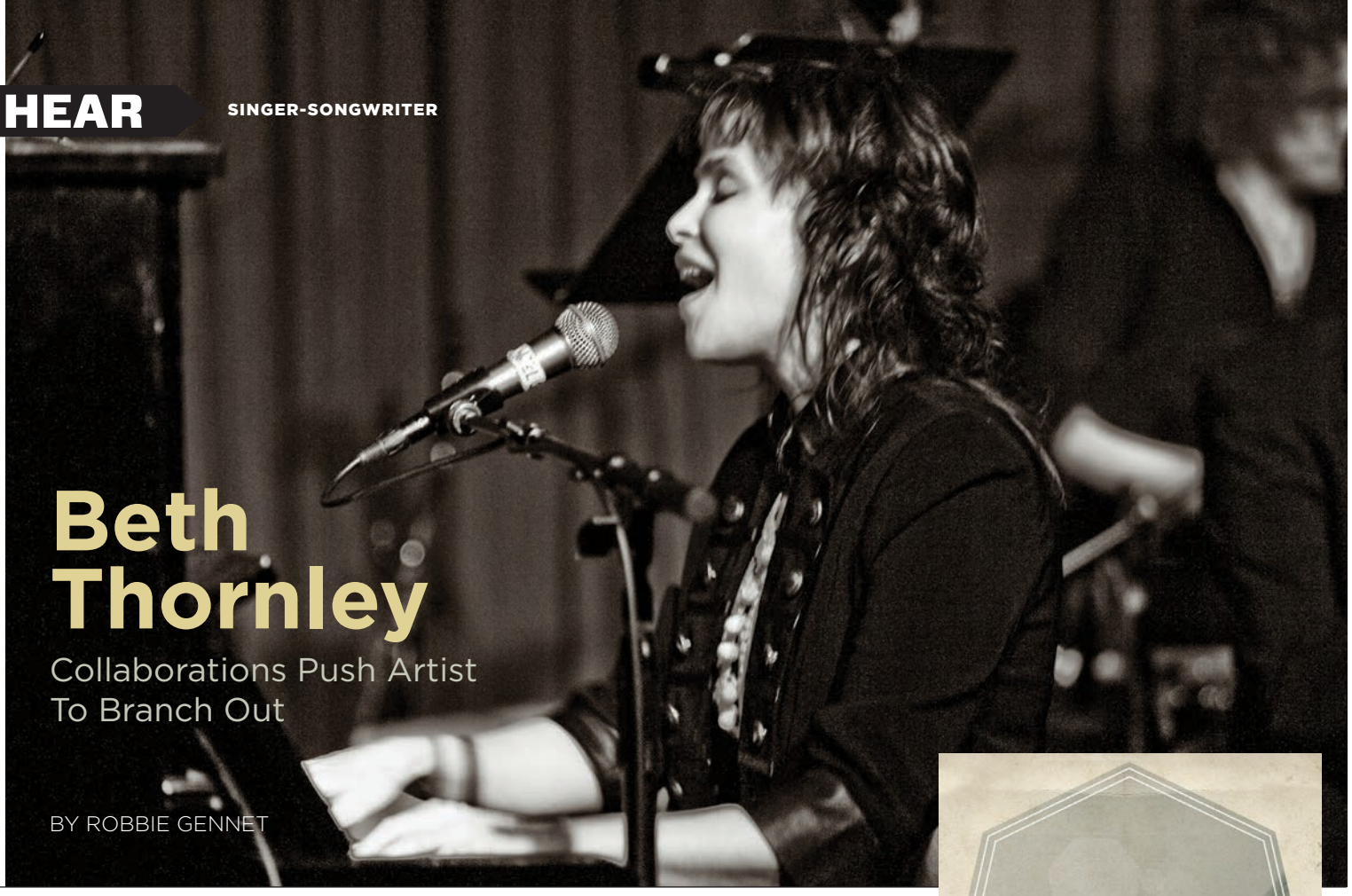

Beth Thornley

Collaborations Push Artist To Branch Out

BY ROBBIE GENNET

WHEN DESCRIBING ANY SINGER-SONGWRITER WHO HAPPENS TO BE FEMALE and play keyboards, it's tempting to compare her to other well-known artists such as Tori Amos, or Tegan and Sara, in order to give context. However, Alabama-born Beth Thornley's musical vision is hard to pin down because her style runs a wide gamut. On the acoustic side, her seasoned voice haunts melodies with an ache of ages, such as on the new song "Last to Fall," which was written with Glen Phillips of Toad the Wet Sprocket.

For more upbeat fare like "Wash U Clean" (heard on the *Magic Mike* soundtrack), she puts a modern spin on the track that wouldn't sound out of place if she were opening for the Ting Tings. Further expanding her range, this enigmatic artist recently survived a crisis of confidence by delving into musical theater, collaborating with Rob Cairns on songs for a dark musical comedy about Abu Ghraib called *Bad Apples*, and then following that with her delightful new EP *Septagon*.

What was your musical upbringing like?

It was all church choirs and classical music for me when I was growing up. Both of my parents were church and classical musicians, so I wasn't exposed to much else. But when I got out into the world, I decided I wanted to take another path, so I took a turn to rock 'n' roll and pop. I'm still not sure if my background helped or not because pop and rock are a completely different art form and I had to relearn things that I thought I already knew. That was hard and humbling, but I wanted to do it so much that I stuck with it.

How did growing up in Birmingham impact you musically?

Birmingham has a very strong appreciation for the arts, and southern parents send their kids to ballet classes, art classes, and music classes. They make sure their kids have a firm foundation in the classic arts, and that appreciation is reflected in their churches, schools, and theaters. Birmingham also has an amazing folk/rock music scene that I didn't discover until I was old enough to go to bars to hear music.

You recorded and subsequently shelved an EP back in 2011. What is your measuring stick for whether a song or album is good enough?

For me, it was just a feeling that it wasn't quite right. I guess I want to feel like the material on an album reflects personal musical growth and/or some kind of evolution. There wasn't anything wrong with any of the songs. I just didn't feel like there was enough growth from what I had already done.

How did you get involved writing the rock musical *Bad Apples*? Was its success a vindication for your musical aspirations?

Rob Cairns and I were asked to write the music for it. Jim Leonard, who wrote the book, knew both of us and asked us to work on it together. He lured us in by asking us to write just a couple of songs for his play and then, over time, it somehow turned into a full rock musical.

We think that might have been Jim's plan all along, but he knew we'd be hesitant to sign up for a huge commitment so he started with small requests. The success of the musical was a huge surprise but a very happy one for all of us. I am sure it will always be one of the highlights of my musical life. So, yes, it did end up helping me find my confidence again!

How was writing for musical theater different from writing for an album? And how did it impact your songwriting for *Septagon*?

The subject matter for the musical was dictated, which was great because sometimes I get tired of coming up with my own ideas of what to write about. I enjoyed having someone tell me what the focus and story was. I'm not sure how writing the musical has impacted my personal songwriting. I don't think there's been enough time for me to know that yet. I'm sure it has; but if nothing else, it helped me get some confidence back.

For the new EP you co-wrote the song "Last to Fall" with Glen Phillips. What are your feelings on co-writing versus writing solo?

Co-writing always feels awkward to me. It's tough to have two minds come to one conclusion. It's really hard for me to tell someone that I might not be crazy about their idea, and it's incredibly difficult for me to actually have an idea with a person in the room—some sort of performance anxiety there I guess.

But it's amazing when a solid song comes out of that process because it's more unique than anything I could have done on my own, and something I would have never written on my own. It's like a gift from the universe. A happy co-write is addictive and something I'm chasing more and more. I usually write alone because it's so much more comfortable for me to tell myself if I like my ideas or not! But it's also isolating. Both situations offer opportunities to grow.

What keyboard/piano did you use to record *Septagon*? Do you have a favorite keyboard for playing live?

For "All These Things" and "Last to Fall," we used my own piano, which is a Yamaha U3 acoustic upright. For "It Could Be," we used synths. There's a lot of KV331's SynthMaster [virtual instrument] on that song. And for the song we recorded in Bill Lefler's studio ["Say That You Will"] we used his upright piano. Regarding playing live, I use a Roland RS-5 to trigger the sounds we've loaded into the laptop, using Cantabile as the host with plugins such as Kontakt.

The RS-5, although not a weighted keyboard, has the benefit of being really light, so it's easier for me to haul around to shows. We also use an M-Audio MidAir 37 wireless keyboard. Depending on the song, different band members will play keys. It's very easy to pass it to one another onstage without having a dedicated keyboard for everybody.

Musically speaking, do you have any unfulfilled goals or dreams? Do you see yourself working in musical theater again?

Goals and dreams? To time-travel back to the '70s and be in Led Zeppelin, and somehow become a guitar player, too! ♫

Beth performs at our offices.

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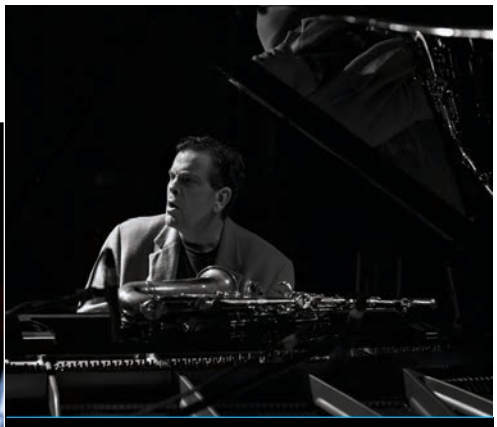
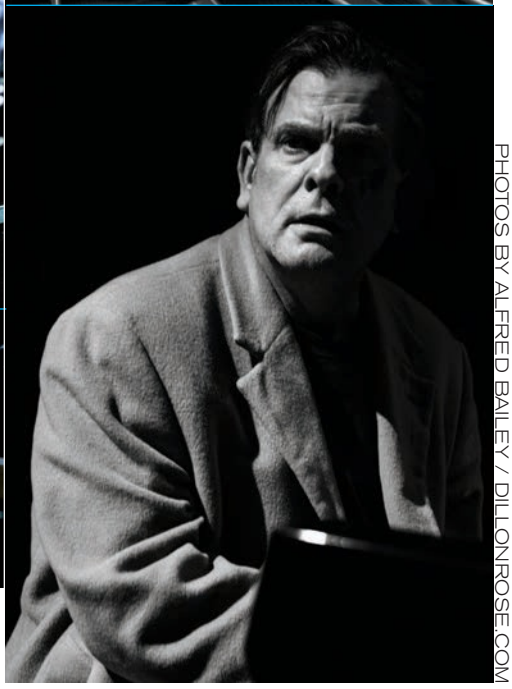
Chip Crawford

THE PATIENT PIANIST

BY JON REGEN





PHOTOS BY ALFRED BAILEY / DILLONROSE.COM

THE 61 YEAR-OLD PIANIST AND COMPOSER CHIP CRAWFORD IS NO STRANGER to the music scene. He's taught, gigged, and recorded with some of the biggest names in the business. But it's his dynamic accompaniment with the Grammy Award-winning jazz vocalist Gregory Porter that has taken Crawford from a "best kept secret" to near instant, international acclaim. Find out more at chip-crawford.com.

HOMETOWN: Raleigh, North Carolina. (Currently living in Bronx, New York).

MUSICAL TRAINING: I graduated from the Berklee College of Music in 1972 and earned my Master's Degree in Music education from North Carolina Central University in 1989.

FIRST GIGS: At the age of 12, I was playing organ on a flatbed truck at a drive-in movie in North Carolina in 1964. I touched an amp and almost got electrocuted. (My father wired my Hammond M 100 with a quarter-inch plug to a Bell and Howell record player.) At 21, I opened for Weather Report playing Clavinet, Rhodes, ARP Solina, and a Minmoog. I also ran an ARP Pro Soloist through an Echoplex and got a great string sound. Even Joe Zawinul was impressed!

MY BIG BREAK: Meeting jazz vocalist Gregory Porter and our band at St. Nick's Pub in New York's Harlem neighborhood.

MUSICAL INFLUENCES: All of the great jazz artists, R&B, gospel, Latin, reggae, and classical music.

INSTRUMENTS PLAYED: Piano, Hammond B-3 organ, and various synthesizers. These past two years, I've played at least 200 Steinways, plus many Yamahas and various other great pianos. I'm just now starting to hear and feel the differences between them.

FAVORITE KEYBOARD GEAR: Steinway D and Warren Shadd acoustic pianos, Yamaha MOX6 synthesizer workstation.

ACCOMPLISHMENTS: Recorded with the Four Tops, Donald Byrd and Teo Macero. Arranged for the Wilmington Symphony Orchestra, taught jazz piano at Duke University, North Carolina Central University and the University of North Carolina. Won "Best Jazz Composition" for the International Songwriting Competition in 2004.

LATEST ALBUM: Gregory Porter's *Liquid Spirit*, which won the Grammy for Best Jazz Vocal Performance in 2014.

WHAT I'M LISTENING TO RIGHT NOW: Rap, old country, music from Africa and Asia, and opera.

WHAT'S NEXT: We've been touring 300 days a year for the past two years. Gregory Porter's new album to is to be recorded in March of 2015.

ADVICE: Use your "ESP." Don't be a control freak. Be supportive of musicians at all levels. ♫

Watch Chip play "Illusion" live in Paris with Gregory Porter.

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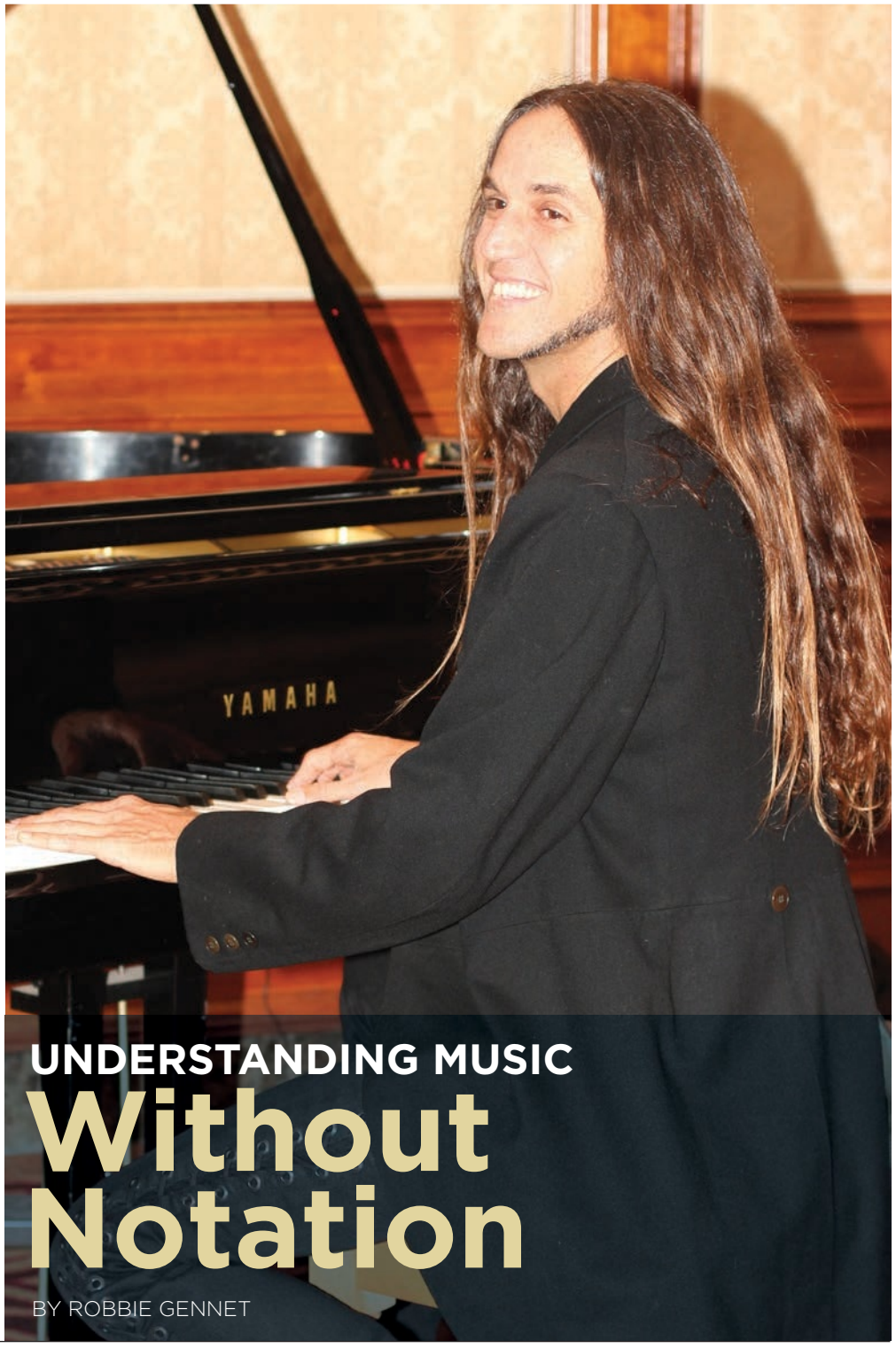


UNDERSTANDING MUSIC

Without Notation

BY ROBBIE GENNET

GREETINGS AND WELCOME TO THE NEW KEY OF ONE COLUMN! WE'LL EXPLORE ways to understand music theory without conventional notation, *i.e.*, sheet music. In fact, this first installment explains how notation is not music; why music as a language is not necessarily learned via notation; and why all musicians can benefit by exploring music without notation, whether they eventually use sheet music or not. Interested?

The Problem

Notation was invented in the age before electricity as a method to "record" music for posterity: From simple Gregorian chants to far more complex compositions, the music needed to be reproducible so it could be shared with others. Consequently, the preferred method of music education was to translate this notation back into music; you could think of that as "playback" via live human performance. So every student was taught how to read notation for that purpose. That's all well and good, but the danger today is that students whose education emphasizes notation might become competent regurgitators of music without developing a true ability to "think" in music or to improvise and write musically—making them like human phonograph needles.

Many students who have a hard time grasping notation effectively get shut out of music and end up feeling that they must not be capable of understanding it. This is a flawed paradigm on both sides, and one that is easily correctable by delivering a true understanding of music fundamentals to students. Then, musicians who go on to read notation will do so with an inherent understanding of what they're reading, and those who don't "get" notation can still pursue their musical aspirations without it.

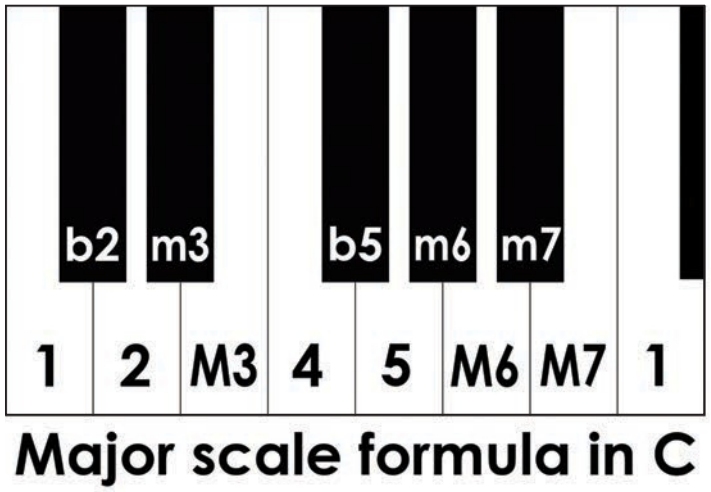
The Basics

Let's put aside notation for the moment and examine the basics of music so that we can pour a solid foundation.

1. Major and minor scale formulas. Music itself can be explained and understood by the sound of numbers, or rather, relationships between sounds that can be expressed as simple numerals. Our two most basic scales—major and minor—are not separate entities. Instead, they're both derived from the same formula.

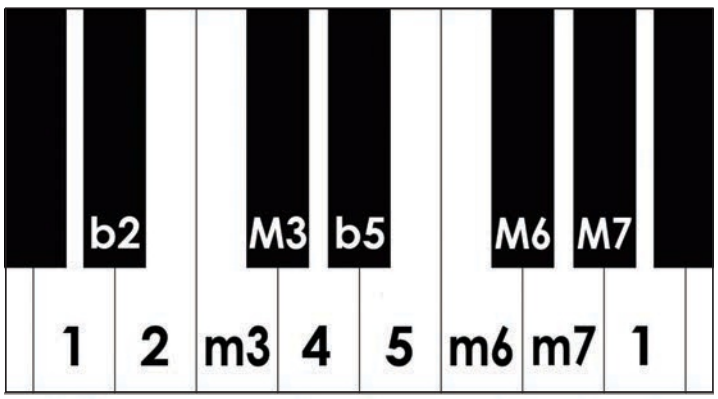
Out of the 12 existing notes, the major and minor scales each use seven, leaving five notes unplayed. Both scales have notes 1 (the root), 2, 4, and 5 in common, and then choose between ordered pairs of 3s, 6s, and 7s (minor immediately below major on the physical keyboard) to create the major or minor scale. Once you lay out a seven-note major or minor scale, you can make sense of

Fig.1



Major scale formula in C

Fig.2



Minor scale formula in A

the five notes you're *not* playing. If you're playing a major scale, you're skipping the minor 3, 6, and 7, plus our two outlier notes: the flat 2 and flat 5. If you're playing a minor scale, you're skipping the major 3, 6, and 7, and the two outlier notes.

The 1—the root note that defines the musical key of the scale (or song)—can be any note on the physical keyboard and the above relationships will still hold true, but let's start with *C* because it provides a literally black-and-white visual example of the major scale *formula*. Hold down the white keys in an octave from *C* to *C* and you can see that the black keys just happen to be the notes you skip when playing the major scale (see Figure 1). Also, none of the skipped notes are side by side. Now, file this for future use: If it's true in *C*, it's true in every key!

Now hold down the white keys over an octave from *A* to *A* and you'll see a black-and-white example of the *minor* scale formula. Notice the same thing: The black keys just happen to be the notes you'd skip in a minor scale, and none are side by side.

In different keys than *C* major or *A* minor, played versus unplayed notes won't be a simple white key/black key matter. But the correct and skipped notes will always be the same distance from each other wherever you begin on the piano keyboard. Which brings us to . . .

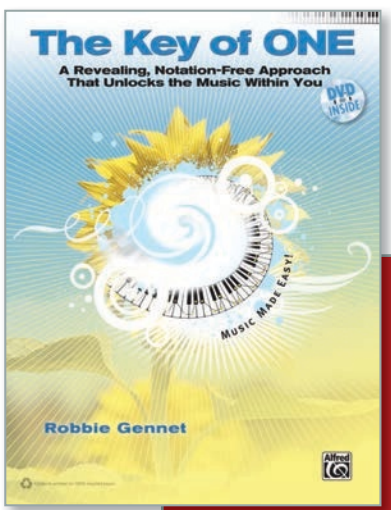
2. Different keys. There are only 12 keys (each with major and minor variants) in Western music. Because the piano keyboard is an uneven landscape, the scale formula in each of these 12 keys has a different shape to the eyes and feel for the fingers. (Contrast with a guitar, where chords and scales have the same physical shapes and finger positions anywhere on the fretboard.) Therefore, many well-meaning piano teachers show students how each key is *different based on shape*, which confuses us from the beginning. What we really need to focus on is what every key has in *common*: how the unchanging numerical formulas for major and minor scales *sound* in each of the 12 keys. Then, we can adjust our fingers to the different patterns required to execute them.

By focusing on the numbers and their sounds, we always feel familiar with the way things work: Once you pick a key to play in, *that* key becomes your 1. Then, the formula lays out in linear fashion and we can easily find and hear the sounds of the 2, 3, 4, 5, 6, and 7. Think of each key as being a different playground with the same ordered elements set up a bit differently. The more you play, the more familiar you are with each key's shapes and with the sounds of each number.

3. What it sounds like. By focusing on the "sounds of the numbers," you're also training your ears to hear them. This is one of the most important elements, as your ear connects the feedback loop from your hands to your mind. Once your ear is familiar with the sound of a major third or a minor seventh, you *will* hear it in any key. This makes transposing a much easier task because the numerical framework of notes and chords in a song does not change from key to key, even though the physical shapes do. This is why a transposed song or melody still sounds like *itself*, no matter what key it's in.

We'll close with a power tip: If you really want to supercharge your hearing, practice blindfolded. Let your ear overcompensate to build its ability to do its job. With music, our physical and mental prowess is only as strong as our ability to listen allows it to be. Just because you can hear doesn't mean you're *listening*.

In our next column, we'll build on this information to explore further keys and scales without notation. See you next month! ♫



Robbie Gennet is a touring keyboardist, guitarist, longtime *Keyboard* contributor, and educator at Musicians' Institute in Hollywood, California. His book, *The Key of One* (Alfred Music) outlines a thorough method for understanding music without learning traditional notation. You can get it at alfredmusic.com, and take private lessons from Robbie at thekeyofone.com.

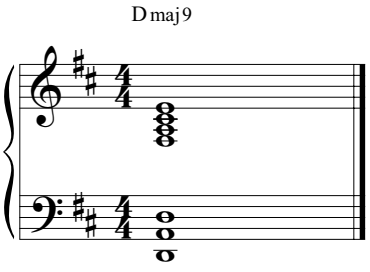
The Rhodes Less Traveled

AN INSIDER'S GUIDE TO ELECTRIC PIANO VOICINGS

BY SCOTT HEALY

THE RHODES IS AN INSTRUMENT WITH A PRACTICALLY UNPARALLELED DYNAMIC RANGE, VERSATILITY, RICHNESS AND playability. Just about anything that sounds good on a piano sounds good on a Rhodes as well. But unless you've known one intimately by toughing it out, carting it to gigs, and getting to know it inside and out, the only contact you may have had with this ancient funk machine might be through "vintage keys" sample libraries and virtual instruments. In this lesson, let's break things down and discover how to get the most out of your Rhodes, whether you are using a virtual version or the real McCoy.

Ex. 1a.



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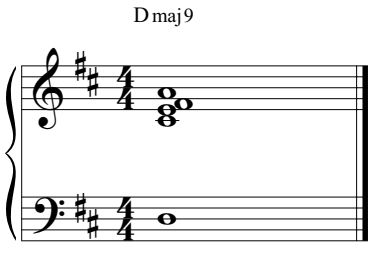
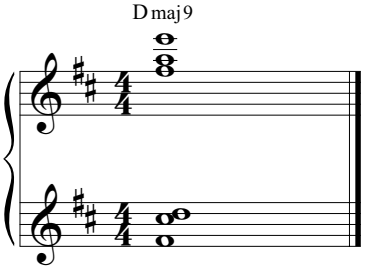


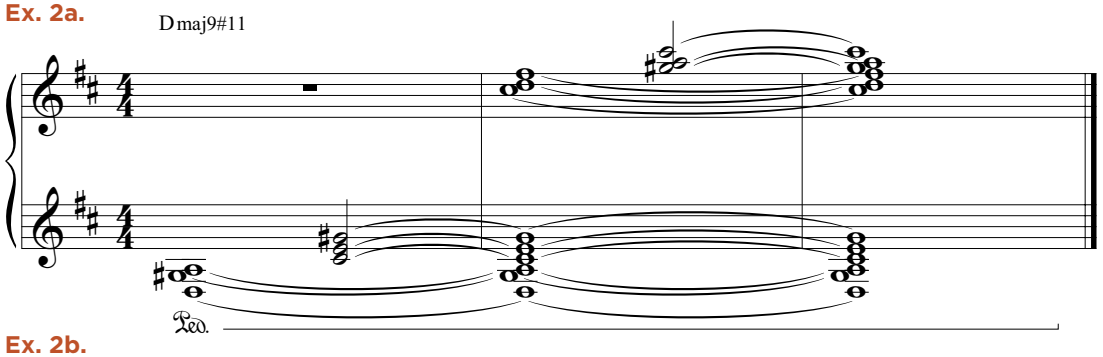
Ex. 1c.



1. Lighten Up!

The general rule for voicing chords on the Rhodes, whether they are for jazz, rock, funk or R&B, is that smaller, tighter voicings are more effective. You really do get more bang from fewer notes. **Ex. 1a** illustrates a typical rich piano chord. **Ex. 1b** shows the same chord lightened up a bit. Since the high midrange of the Rhodes really rings out, higher voicings have a full presence and take up a lot of sonic space, even when played softly, as in **Ex. 1c**.

Ex. 2a.



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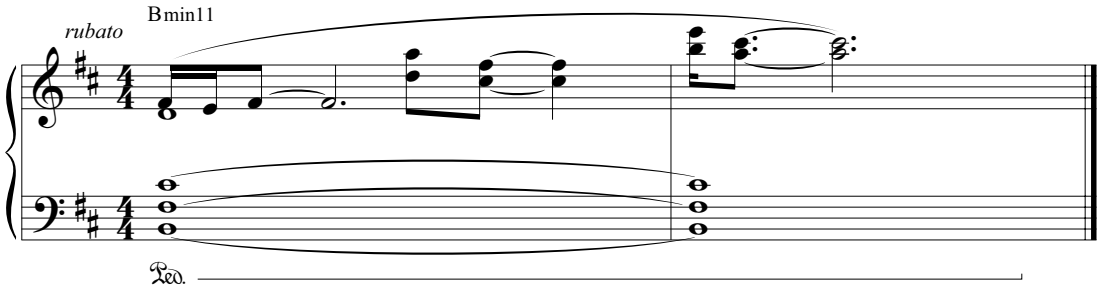
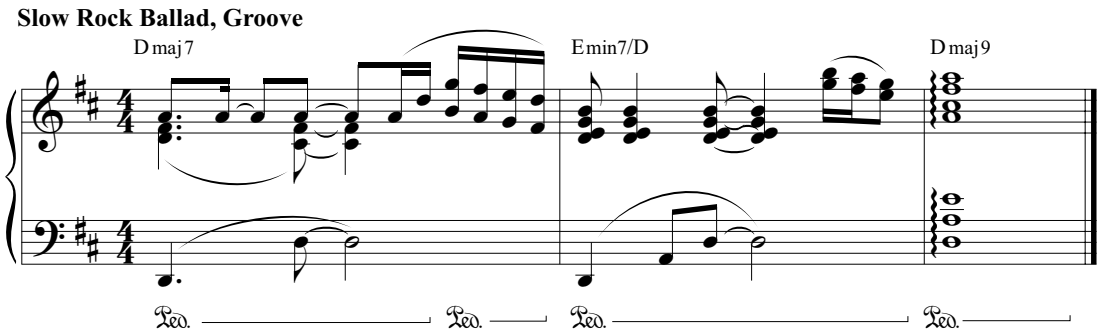
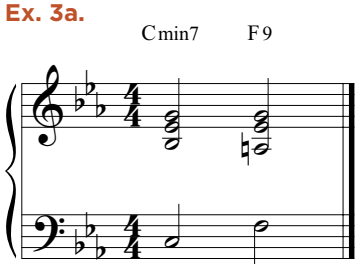
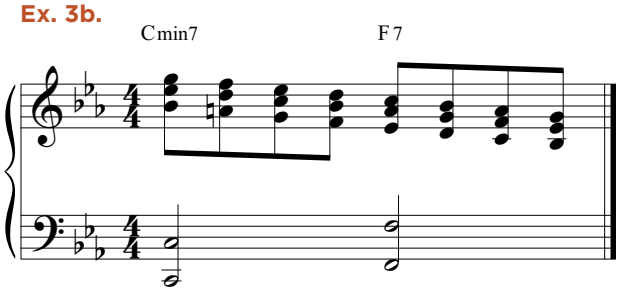
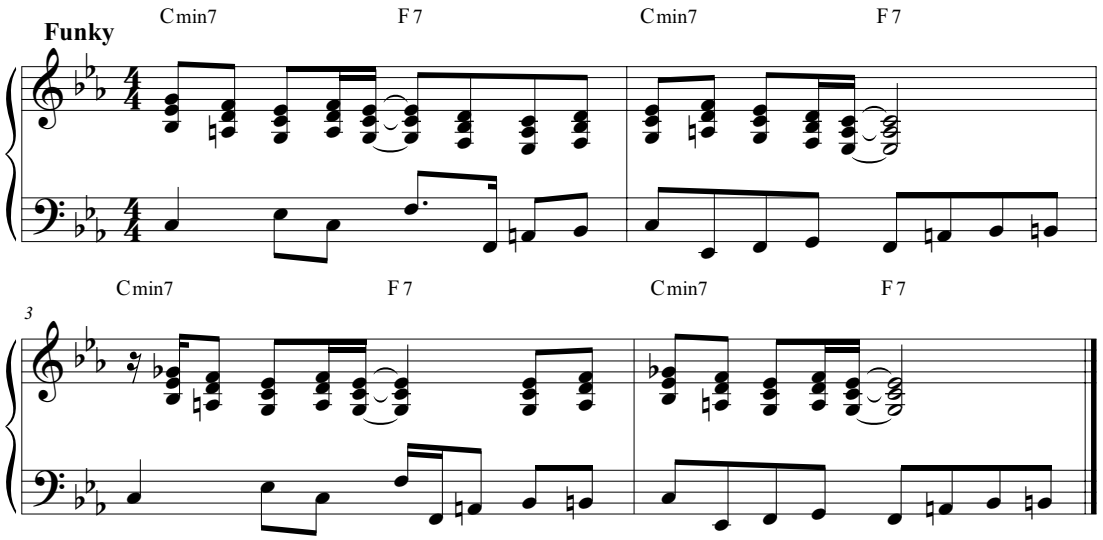

Ex. 2c.



Ex. 3a.

Ex. 3b.



Ex. 3c.

2. Pedal Down

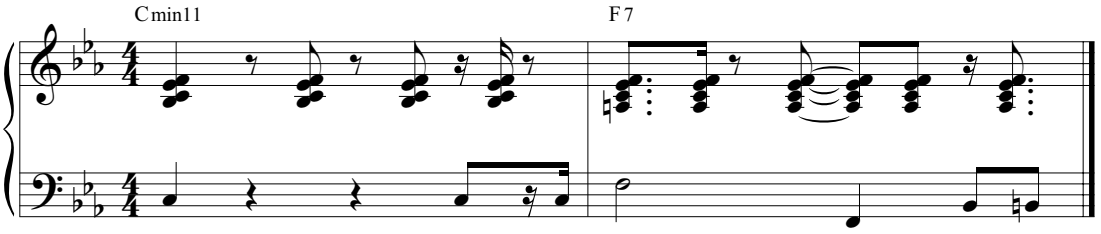
In general, you can use much more of the sustain pedal on a Rhodes than on an acoustic piano. Again, you should pare down your chord structures so as not to muddy up the mix: Lighten up on the left hand and experiment with smaller voicings and fills as you hold the pedal down. Let's take our *D* major chord again, add an extension or two, and experiment with different ways to layer chord structures with the sustain pedal depressed. **Ex. 2a** unfolds into a really big chord and will sustain for a long time, but it sounds clear and not overpowering. (Traditional jazz and pop piano parts sound sweet when played with more pedal than your classical teacher may have taught you!) **Ex. 2b** is another Rhodes voicing that is both clear and ringing. **Ex. 2c** has tight, pop piano chords and bell-like Rhodes fills. What do Chick Corea and Styx have in common? These types of well-designed Rhodes voicings!

3. Riff It Good

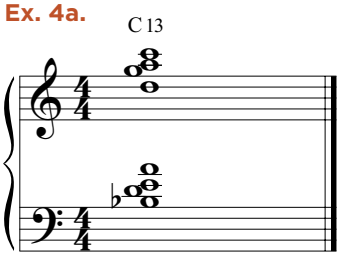
Just like the piano, the Rhodes can be a riffing instrument, a lead voice, a color in the ensemble, or all three. In the 1980s, keyboardists liked to double their Rhodes part with a real piano or with a guitar. When you put a phase shifter or chorus pedal on the Rhodes, the resulting layered sound is even richer. That being said, many great tunes are still built from a simple, unadulterated Rhodes riff that drives the entire song. There are tons of great riffs built on a simple *ii-V* progression, like the one seen in **Ex. 3a**. Gospel and funk players often use *three note* voicings moving down the scale, as in **Ex. 3b**. These kinds of structures soar on the Rhodes. Many iconic tunes are built on a *ii-V* vamp, like Stevie Wonder's "I Wish," Kool and the gang's "Ladies Night," and Grover Washington Jr.'s "Mr. Magic." **Ex. 3c** should be played strong and punchy, *a la* Stevie Wonder, and **Ex. 3d** is a great, staple jam session riff. Lay it back, put it "in the pocket," and play lightly in the left hand. Then fill in some syncopations or "ghost" some inner notes, and you're ready to rock—or jazz!

Ex. 3d.

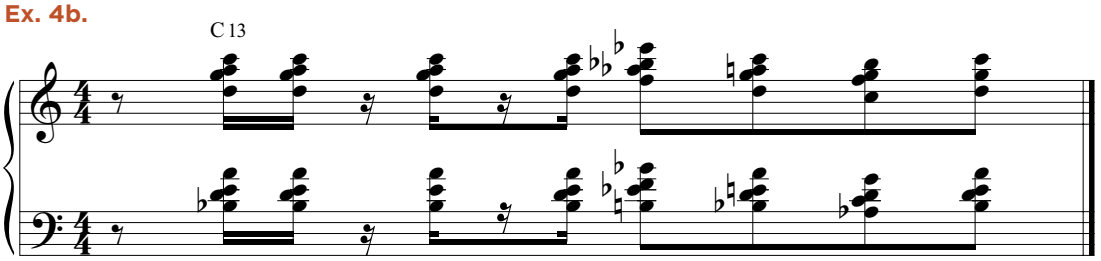
Even Funkier

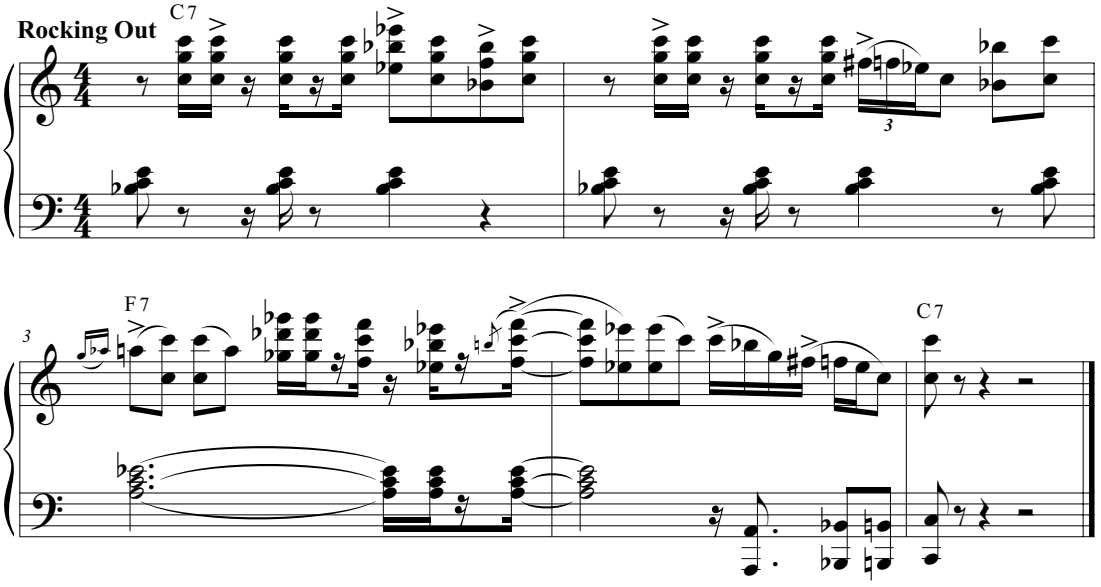


Ex. 4a.



Ex. 4b.



Ex. 4c.

4. Solo Concepts

All the big jazz and rock voicings, as well as high piano blues riffs, sound great on a Rhodes. A jazz or blues pianist might use a wide, two-handed voicing (**Ex. 4a**), or a riff using that voicing (**Ex. 4b**) in a loud, exciting solo. Simpler things like octaves and single lines work as well. **Ex. 4c** is funky but also rocking, and includes some blues riffs and single lines. How you play the left hand in a solo like this is up to you—jazz players might favor small, tightly punctuated comping, while rock players might go for lower octaves. For reference, watch the Beatles' *Rooftop Concert* and see Billy Preston's heavy, gospel-style left hand during his solo. It's all about articulation and punch.

Turn It Up!

"Artists like Ray Charles were early adopters of electric pianos because of the unpredictable condition of acoustic pianos in nightclubs. But there was another benefit to going electric: You could finally turn up (without mic feedback) and compete with loud bandmates," says Grammy-nominated keyboardist **Scott Healy**. Healy has performed and recorded with Tony Bennett, B.B. King, Bruce Springsteen, and Christina Aguilera. He's also the longtime keyboardist in the Basic Cable Band on TBS' *Conan*. Healy's acclaimed new album *Live at Kilbourn Hall* is out now. Find out more at bluedogmusic.com.

Listening List Classic Rhodes Tracks

CHICK COREA "Return to Forever" (*Return to Forever*)

HERBIE HANCOCK "4 A.M." (*Mr. Hands*)

THE BEATLES "Get Back" (*Let It Be*)

STYX "Babe" (*Cornerstone*)

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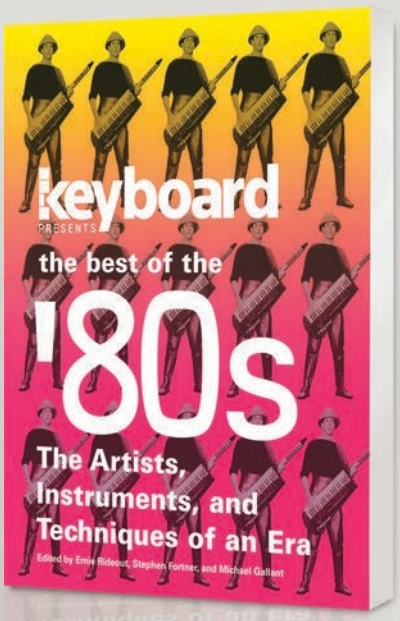

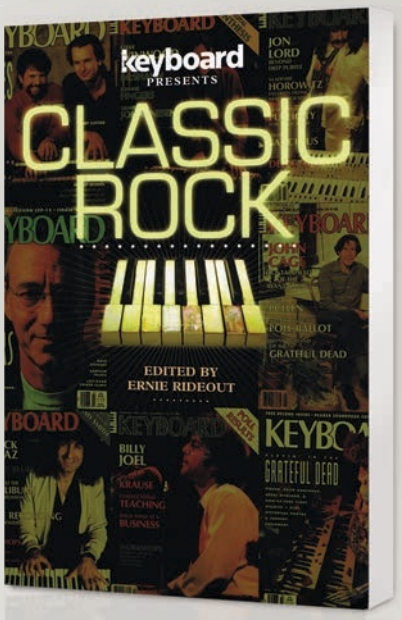

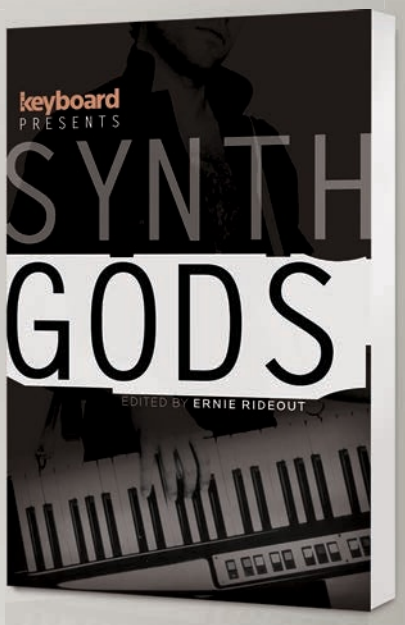

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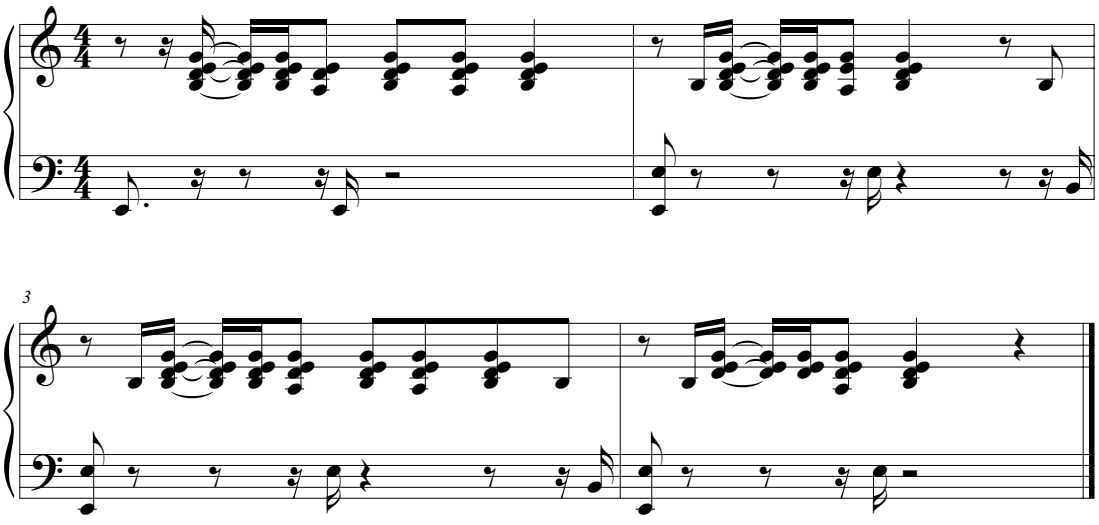
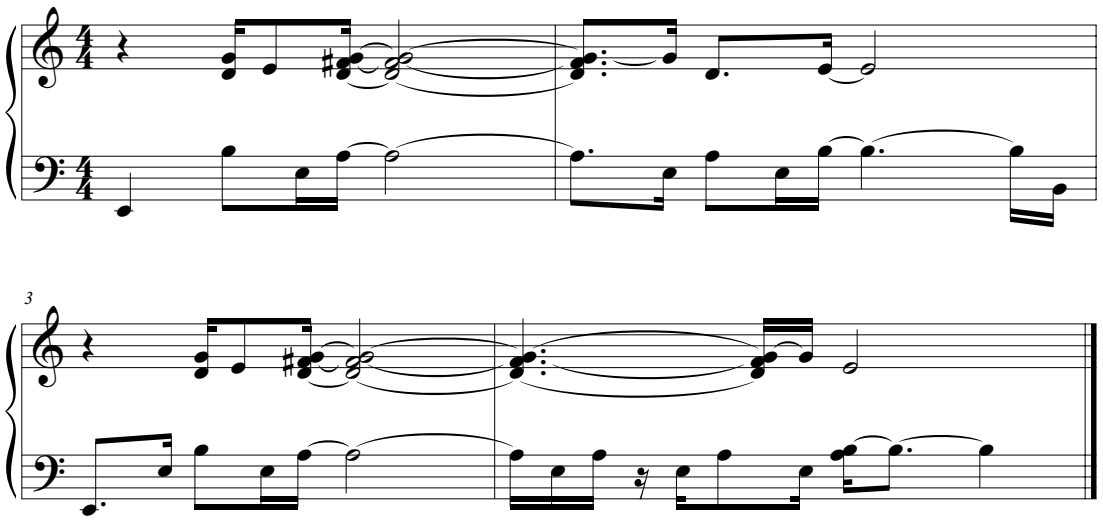
MASTERING One-Chord Vamps

BY DAVID GARFIELD

LET'S EXAMINE THE ART OF COMPING OVER ONE-CHORD VAMPS. IT'S ALWAYS A CHALLENGE TO CREATE COMPELLING musical parts while staying on just one chord. Remember not to be too busy in your playing—always leave some space for other musicians' parts to seep through. This creates a way for all of the instruments in the band to blend together nicely. Also try to find subtle "variations on a theme" rather than completely changing up your patterns drastically. Developing catchy motifs or hooks and repeating them occasionally with different nuances will create familiarity and interest the listener even more. If you follow some of the ideas and techniques described here, I'm convinced that your comping will soon become more interesting and exciting—and your fellow musicians will love you for playing with good time and restraint. (Audio note: All the examples here were played on a Yamaha Motif XF8).

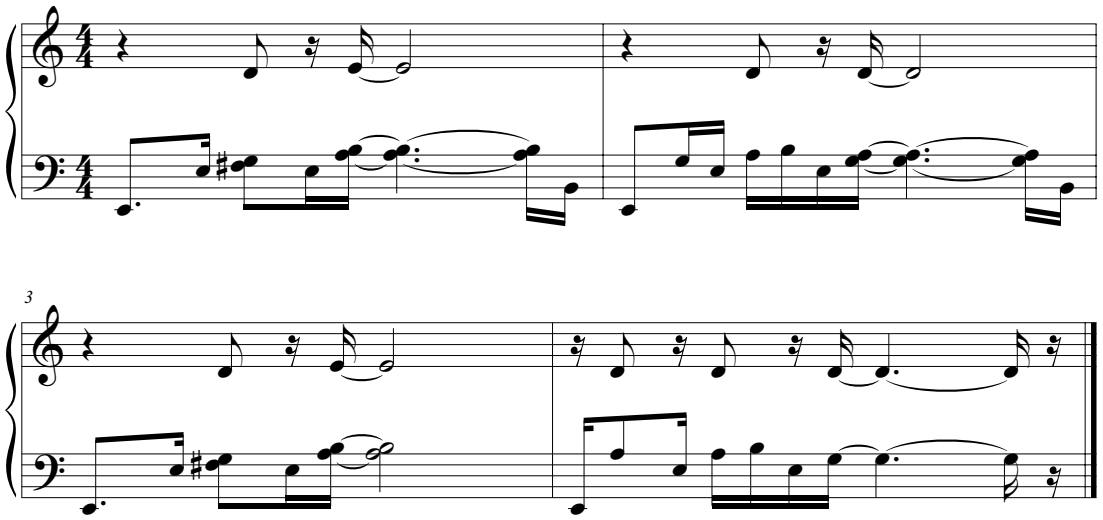
Ex. 1.

1. Rhythmic Right-Hand Comp

Ex. 1 illustrates is a way of using both hands together to create a pattern with most of the rhythmic activity taking place in the right hand. There is a slight "call and response" effect between the first and second motifs, which creates an overall hook to the comp. When developing this pattern further, you can make other subtle variations like tasty fills and well-positioned use of space and rests.

Ex. 2.

2. Simple Pad Comp

In **Ex. 2**, we use a pad to create a bed of sound that can help connect the other instruments in a group together. I tried to make a little movement within the pad, going on top from the third to the ninth and then again from the seventh to the root. Letting certain common tones sustain while moving others creates a subtle complexity that often sounds more interesting than simple "footballs" (or held, static tones). I'm always using whatever notes are associated with each chord to choose from based on the whole seven-note mode. In this example, the chord is an *Emin7*, which is the Dorian mode of the *D* major scale.

Ex. 3.

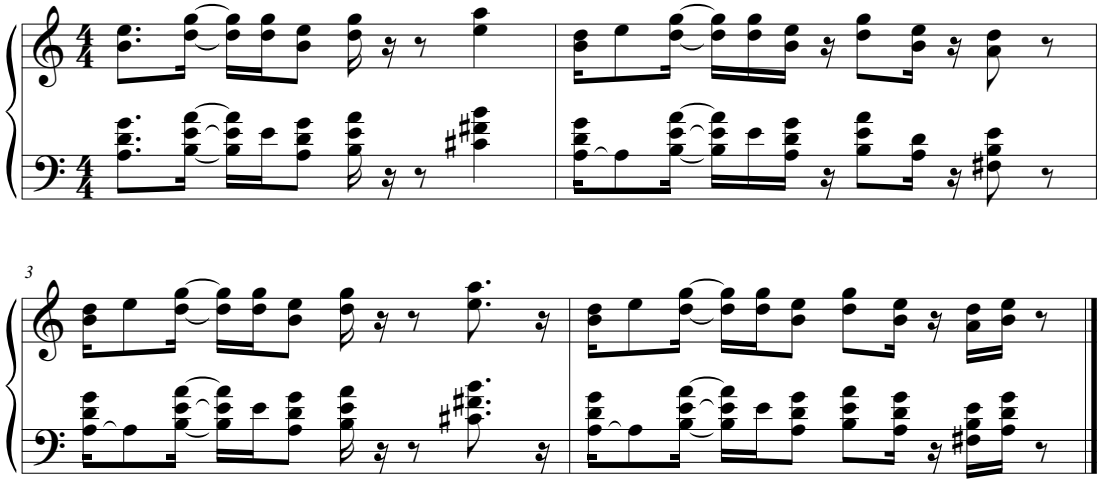


3. Rhythmic Sustain Comp

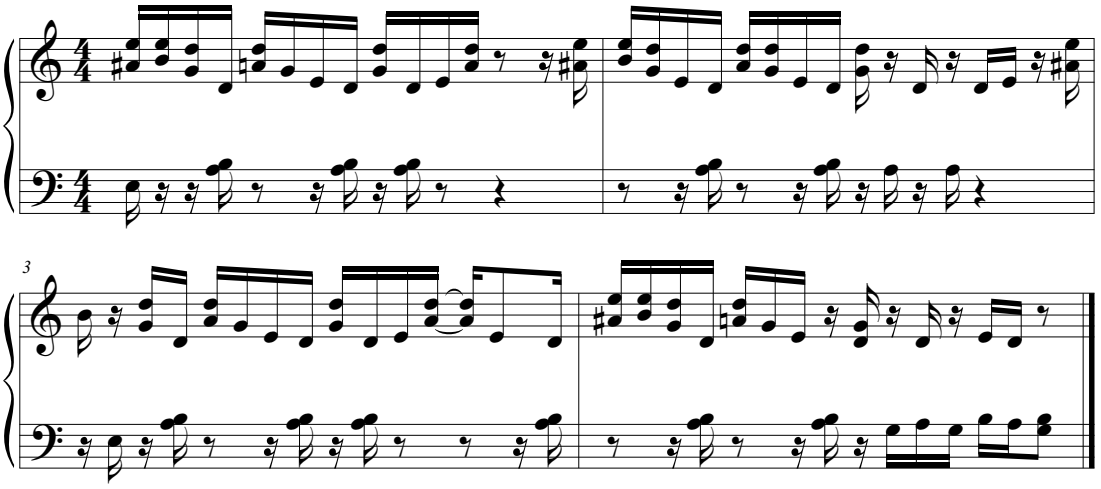
In **Ex. 3** I use quick movement from the fourth to the fifth, and I add the ninth and fourth occasionally for a richer sound. Note that when playing with bass and drums, you should always be careful not to interfere with those parts. If I were on a session playing something in this key with bass and drums, I'd close my eyes, listen, and let my hands start conversing not only with each other, but also with the other musicians' parts in the mix.

Give the Drummer Some . . . Attention

"Always practice with a metronome and focus on good, even timing. When playing with other musicians, listen to the drummer and rely on him or her as you would the metronome," says **David "Creatchy" Garfield**, who has performed and recorded with George Benson, Van Morrison, and Smokey Robinson. Garfield also founded the influential jazz-fusion bands Karizma and Los Lobotomys. His latest release is *Perfect Harmony* by Karizma. Find out more at creatchy.com.

Ex. 4.

4. Two-Handed Block Voicings

I find "block voicings" incredibly effective for the more climactic moments of a song, as illustrated in **Ex. 4**. Many developing players get into the habit of simply using octaves in their left hands on the root of the chord. These two voicings help get you away from that, as they let the bass player handle the root. Always try to use notes from the corresponding mode in constructing your voicings, and try not using the root at the bottom of your chords. You can also use the *chromatic interval* below or above to add another dimension to this kind of comping pattern.

Ex. 5.

5. Hand Syncopation

In **Ex. 5**, I demonstrate using staccato and syncopated rhythms between both hands. (This also works well on the Clavinet and organ.) Once again, *space* is essential. It draws the listener in and highlights the sounds of instruments such as drums, guitar, and bass. One of the rhythmic devices I'm using here is subtle *displacement* of where the pattern starts: from the last sixteenth-note of the bar to a downbeat somewhere else. This creates emphasis on different parts of the beat, drawing the listener further into the music.

Listening List Great One-Chord Vamps

HERBIE HANCOCK
"Chameleon"
Head Hunters

STUFF
"(Do You) Want Some of This," *The Right Stuff*

JOE SAMPLE
"Put It Where You Want It," *Sample This*

KARIZMA
"Zigaboo,"
Perfect Harmony

SOUNDCLOUD

Hear David play the audio examples from this lesson online.

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Organizing Sounds and Charts

BY CHRISTIAN MARTIRANO

THE JOB OF THE GIGGING KEYBOARDIST CAN BE DAUNTING. WE'RE SUPPOSED to keep up with all the sounds required to cover tunes across years and genres. Then there's being able to play potentially thousands of songs, many covered by different artists with varying arrangements and keys. Like many of you, I'm the primary keyboardist in multiple bands and the sub for even more, and have collected many charts and music books over the years. In this column, I'll share how I've organized those charts digitally on an iPad and—more importantly—how those charts can call up all the sounds I need on the fly.

First, Organize Your Instrument

I create my sound palette in the Setup mode (a.k.a. Performance, Combi, or Multi mode) of my gigging workstation, a fully-loaded Kurzweil K2600XS. I name individual setups after songs and organize them alphabetically. This lets me find things more quickly, although it is still not a perfect system. I spent a lot of time creating a master "superset" file of setups to have on demand. This one file covers most songs I may be asked to play, and I'm constantly adding to it. As memory is always an issue, I try to reuse as much of the meat-and-potato sounds as possible, and leave what memory I have left for specialty sounds. I'm always reworking this file to optimize memory use—though this will be less of an issue if you're playing a more current instrument.

My workstation offers inputs for four footswitches, two CC pedals, and a breath controller—and I use them all. I use footswitches to mute and unmute zones, so I can use one setup to cover all the parts of a given song. I use one CC pedal to control the volume of specific zones (programmable per setup), and a second for overall volume. Point being, use *all* of the capabilities of your instrument and you'll find yourself using fewer program IDs and taking fewer keyboards to the gig.

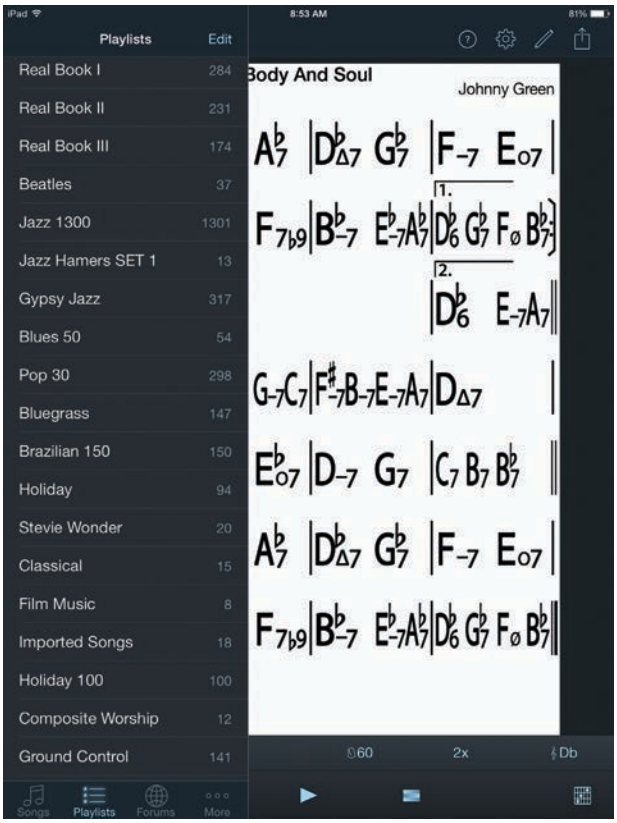

Fig. 1. iReal Pro is a great iPad app for jazz and pop chord charts, and can transpose.

Organize Your Charts

Unless you can keep hundreds or even thousands of songs in your head and transpose them on the fly, you'll need charts—and getting them into an iPad is most certainly better than lugging around books and binders. Here are some iOS apps I use for different purposes, each with its own benefits and drawbacks.

iReal Pro ($12.99, irealpro.com) includes the ability to transpose and lets you to create your own charts from a respectable set of tools. It also lets you access a dedicated forum where thousands of user-created charts are available (see Figure 1). Many have errors, so be sure to play through the ones you want to use. There's even a song player so you can audition charts. Unfortunately, the app doesn't support external MIDI control, nor will it access scanned PDF files, so I use it mostly for songs where instant transposition is required.

Apple iBooks can be downloaded for free from iTunes, and can put digitally purchased PDF books alongside ones I've created from scans (see Figure 2) Using Preview on Mac OS X, I first create a separate PDF file for each letter of the alphabet: just the letter, big. Then I alphabetize all my song charts that begin with "A" after the "A" file, then rinse and repeat. I then move these books from my MacBook Pro to my iPad via Dropbox, and finally export them into iBooks. The first time I open the book, I bookmark each of the 26 big letters (see Figure 3) so I can jump to any letter and then scroll to the chart I want. This is faster than scrolling though the entire book and looking for a particular chart. This is a great system if you only need to flip through scanned paper charts as-is, but of course you can't transpose a PDF file, and iBooks doesn't have any MIDI capabilities.

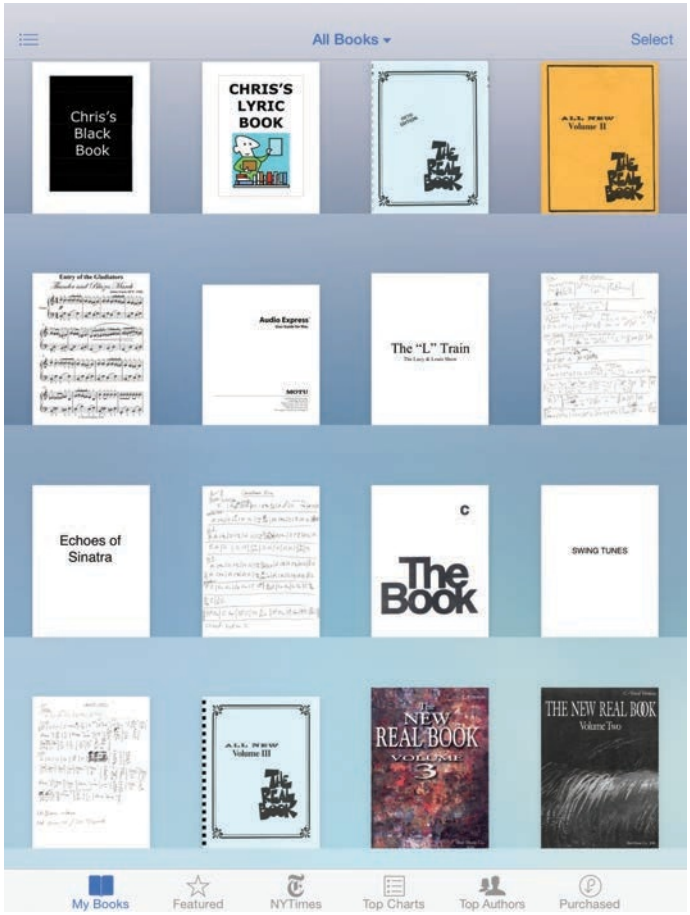

Fig. 2. Purchased and home-scanned PDF books in iBooks on the author's iPad.

UnrealBook ($5.99, diystompboxes.com/unrealbook) is a favorite of David Rosenthal, keyboardist and musical director for Billy Joel (see *Keyboard*, Oct. '14), and is the true power user's app. Connect your iPad to your Mac and open iTunes on the Mac. Select the app from within iTunes, and simply drag any PDF charts you have into it. A behind-the-scenes conversion resizes the PDFs to fill your iPad screen and alphabetizes them by title. Launch the app on your iPad, and you'll see all your charts arranged alphabetically. Importantly, the app lets you assign one MIDI program and bank change message per PDF file using hexadecimal code; currently the app doesn't support numeric entry, but it is easy enough to use a numeric to hex converter to find the correct values.

The app lets you select the MIDI transmit channel for the program changes. When I select a PDF chart, UnrealBook sends a single message that selects a corresponding setup containing all the programs, splits, layers, effects, and controller assignments for a given song. Yes, some careful pre-programming is required, but combining the normally separate actions of changing charts and changing sounds saves seconds and sanity between tunes. Again, because we're in the PDF realm, UnrealBook can't transpose.

UnrealBook also can't assign multiple program changes to different sections in the same PDF—so you'll need to break a chart into multiple PDF files if you want different sound setups for the verse, chorus, and so on. Likewise, you can't split PDF books into multiple song files, so keep those files separate. I hope the developers address this drawback, as I had to split up PDF books I'd previously created in iBooks, and that was a lengthy process.

For different gigs, UnrealBook lets me create playlists (see Figure 4) and drag song titles around to arrange them in any order. You might ask, "Can I preview charts while playing at one of those gigs where the bandleader is calling songs seemingly randomly?" Yes. You can select an entire playlist and have it open while playing—without causing any program changes to be sent. When a song is called, tap that song title and you're ready to go! UnrealBook even allows me to annotate my charts. Now that is awesome!

Page turners. All the above apps let you either swipe or tap to turn a page. AirTurn (airturn.com) also makes wireless Bluetooth pedals that can send page-turning commands to the iPad. Their Digit two-pedal unit ($99) allows for forward and backward turning; a four-pedal model ($159) adds the ability to step up and down through a list. Another two-pedal contender is PageFlip by Cicada ($89.95, pageflip.com).

Controlling Big Rigs

If you need to control multiple keyboards from UnrealBook, you can send multiple MIDI streams from UnrealBook for each PDF file, via a hardware device that can receive a single bank and program change and pass along multiple channel, controller, bank and program-change messages to its MIDI outputs. My Kurzweil K2600XS does this for me in Setup mode. I normally get by with just the K2600XS controlled by the iPad (with AirTurn pedals), but my larger gig rig adds a Kurzweil K2661 synth and a Muse Receptor 2 Pro Max running Ivory 2 pianos and the Kontakt 5 software sampler. I dedicate two zones per setup on the K2600XS to MIDI control of the Receptor and use the K2661 for spontaneous riffs when I'm not playing left-hand bass. When the K2600XS gets a program change from a chart on the iPad, it calls up a new Setup that includes all the correct sounds, zones, and controller assignments for the other synths. Most workstations allow each zone in a setup/combi to send to either the internal engine, or the MIDI ports, or MIDI over USB, or to combinations thereof, so check the documentation for yours.

Preparation Pays

It has taken me many months of exploring to come up with the above solution, which works 90 percent for me. I won't lie—getting to this point requires significant time investment. But organizing my keyboard sounds and charts, and controlling my sounds *by* changing charts, has let me enjoy all kinds of gigs much more—no matter how fast the drummer counts off the next tune! ♫

Fig. 3. Tapping one of the author's bookmarks takes him to the songs in iBooks that begin with that letter.

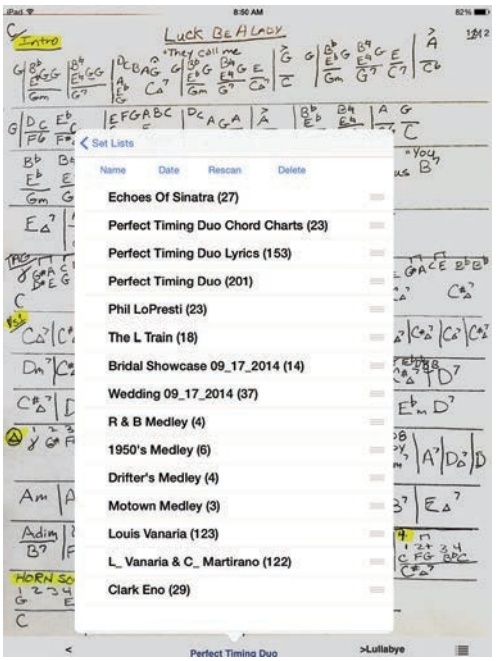

Fig. 4. Playlists for the author's gigs in UnrealBook. Touching a playlist name opens up its list of nested songs; touching a song calls up the chart and sends a MIDI program change to his synth workstation.

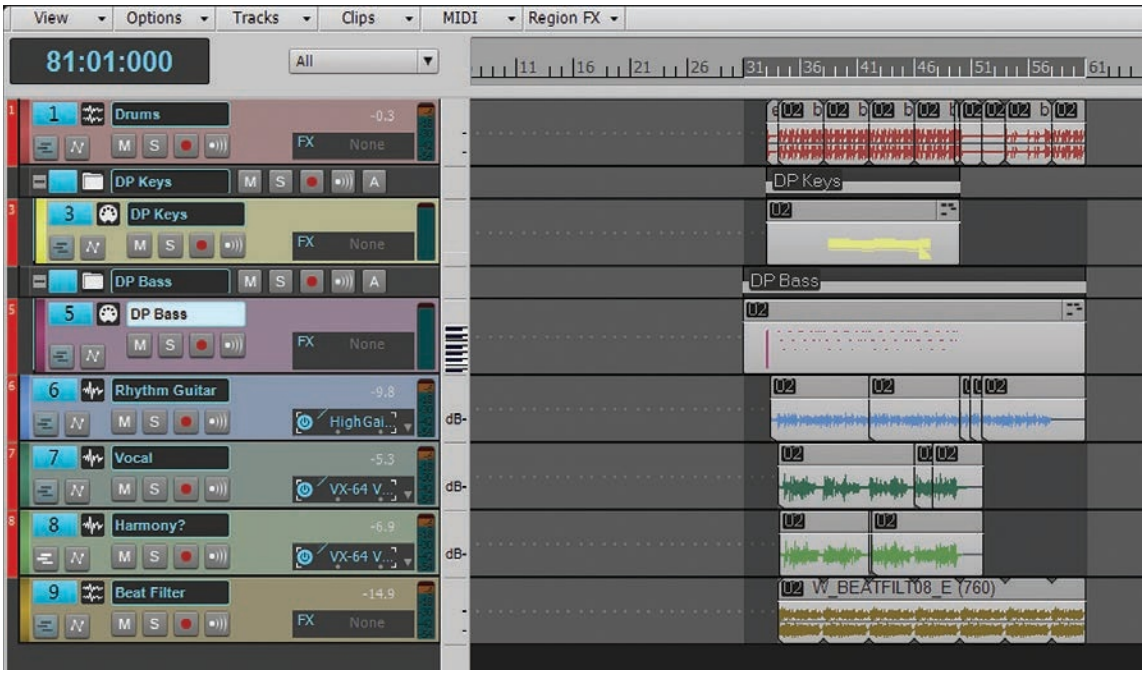

Fig. 1. The clips in this chorus section (started somewhere in the middle of the timeline) are grouped into a single block, which makes it easier to experiment with different arrangements.

Non-Linear Songwriting

BY CRAIG ANDERTON

WITH A TEXT NARRATIVE, FEW AUTHORS NAIL IT ON THE FIRST DRAFT. [*Even* Keyboard *contributors? Say it ain't so! —Ed.*] Often the purpose of a first draft is to catch an inspiration, get ideas down, and then edit them into shape later. Songwriting with DAWs can work similarly. You can start the process with MIDI and keyboards, transposing pitch and changing tempo painlessly until you've found the right groove and song structure. Then you can start recording audio. But let's dive one level deeper, and consider the best workflow and mindset to take advantage of a non-linear "fast track" approach to songwriting.

Non-linear "modular"recording. DAWs don't have to run linearly throughout a song. If you're inspired with a melody, hook, lyric, anything—*hit record*. You needn't start at the beginning. If you have an idea for a chorus, start recording well along the timeline. Of course you can record at the beginning and move sections around later, but you can also think of a song as being modular, and create modules for different song sections along different parts of the timeline.

What about vocals? If you haven't finalized the key and tempo, you have nothing to lose by singing nonsense words and placeholders to get vocal/melodic ideas down. However, pay attention to the phrasing; I did a song recently where the words made no sense but I liked the phrasing. Later, I fit the "real" lyrics to the phrasing. Note that, if needed, you can use a host's DSP to stretch the vocal's time or transpose pitch as the song goes through changes; the fidelity isn't important, as this is just a starting point—not a "scratch" vocal you might want to use.

Choose your development path. After roughing out one section, one option is to work on the rest of the song. But another is fleshing out a section further before moving on. Add some placeholder drums, bass, pads, whatever. Work on lyrics for this one section. Rather than being a distraction, this can often define the song further and make creating the rest of it easier, providing you don't get bogged down.

Group the section's elements. After a section is reasonably complete, group its clips together (assuming your host has this function) so you can move the section around as one block (see Figure 1). As the song takes shape, you can copy this to stake out space for another verse, chorus, and so on.

Browsing the "chord library." One of the most useful projects I ever created was an audio chord library of various chord types—major, minor, ninth, diminished, and so on—that live in a browser folder (see Figure 2). To create the chords, I loaded a sampled guitar, specified the chord notes with MIDI data, and then bounced the notes to an audio track to create individual chords (which provides much more consistent results than playing a physical guitar). This concept works with any instrument, but dry electric guitar notes have a fairly "neutral" sound.

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Start your chord library with our downloadable audio samples.

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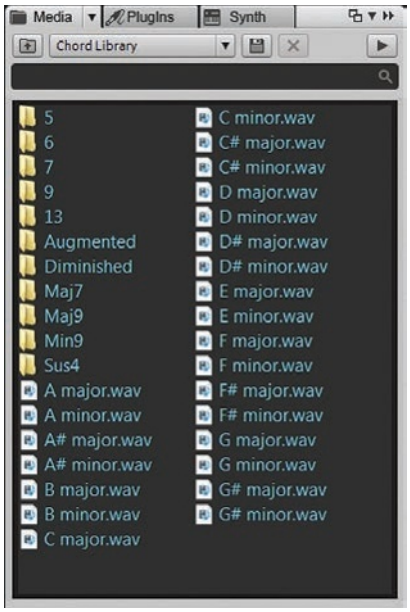

Fig. 2. The Chord Library's major and minor chords are available for easy access; less common chord types are in folders.

Hosts usually let you preview files in a browser. So when writing something like a verse, I'll drag chords out of the browser and into the timeline. Being anchored to the timeline, they follow tempo changes. As the chords start to take shape into a progression, I'll play through them and when they stop, I'll click on chords in the browser until something sounds like it would work well as the next chord—then drag that into the timeline.

The beauty of this approach, aside from the convenience, is that it encourages you to move out of ruts. "Hmm, wonder what a *13add9* chord would sound like here..."

The real-time chord library. As an alternative to dragging, I also mapped the chords across a five-octave keyboard for real-time playing: Major chords start at middle C, the octave lower is minor, the octave below that is fifths. The octave above is sevenths and above that, fourths. This was created for an SFZ player (see "Beyond the Manual" in the June 2014 issue), so it was easy to map other chord types by doing a find-and-replace in the SFZ text file defining the instrument. I have three presets: sustained electronic pad, guitar, and somewhat percussive piano. Dragging from the browser works best when I have a basic progression in mind but need to fill in some holes, while the mapped keyboard is best for improvising when I have no clue where the song is going.

Replacement time. The most important aspect of non-linear thinking is to *let the music tell you what it wants to do, not the other way around*. Your goal is to "channel" the inspiration and translate it to physical form. Don't think too much, and live dangerously: Try chords you've never used before, and be just as quick to discard as to keep. Consider this songwriting process as temporary, fluid, and experimental. Adopt a "right-brain" state of mind where you just *do*. Group clips together and move them around on the timeline, modulate the key up a half-step on one of the groups, whatever. Remember: You're not recording parts, you're creating a song's *structure* into which you will *later* record parts.

Don't start perfecting; replace the placeholders later. Use MIDI plug-ins to quantize, and then move on. If the EQ on your chord library chords isn't optimal, who cares? Write your song, get your lyric ideas down, and then pretend you're handing over a song to the "real" musicians who are going to do the final version. Only then do you have to pay serious attention to your playing. ♫

Pro Tips

Successful non-linear thinking requires a streamlined workflow. Consider the following tips.

- Create a default template for your DAW with the browser already open to the chord library, along with a ready-to-go multi-timbral instrument (or several instruments) loaded with workhorse sounds like bass, a pad, some percussion, etc. At left, Native Instruments' Kontakt has been loaded with such instruments for creating instant "placeholder" parts.
- If you sing, include a dedicated vocal track in your template—and a mic should always be plugged into your audio interface. If you put your mics away to protect them from dust (you should), buy an inexpensive mic like a Shure SM58 and leave it hooked up at all times. You're writing, not singing—but if the vocal ends up being a keeper, an SM58 does the job.
- Set your default keyboard preset to the chord library instrument described above.
- A solid-state system drive will boot your computer faster.
- Keep a text file or notepad app open for jotting down lyric ideas.
- Online rhyming dictionaries are fine, but the true professional tool for anyone putting words to music is a program called MasterWriter (masterwriter.com). It goes way beyond rhyming to suggest synonyms, alliterations, phrases, and other word families.

THE ART OF SYNTH SOLOING

In the Style of Steve Winwood

BY JERRY KOVARSKY

HAVING SPENT THE PAST FEW MONTHS COVERING SCALES AND MODES so we can share a common language when describing note choices, let's put that knowledge to practical use. When we started this column. I got a lot of requests to analyze the ingredients and styles of famous players' solos. Happy to oblige!

Steve's the Man

Steve Winwood is a quadruple-threat musician—playing guitar, organ, and synthesizer as well as singing, all with a soulful style that's instantly recognizable. Keyboard has done many interviews with him over the years, starting back in June 1981; May 1989 has a full transcription of "The Finer Things." As synthesizer players, we're most interested in his early '80s album *Arc of a Diver* (1980), with the smash hit "While You See a Chance", followed by *Taking Back the Night* (1982) with "Valerie." In 1986, *Back in the High Life* also included some synth solo gems. The first two albums were pretty much solo affairs, with Steve playing all the instruments, and during this time he developed a solo synth sound and style that has been hugely influential.

The Sound

Mitchell Sigman did a great column on this in the June 2006 issue, entitled "If You Hear a Solo, Take It", which we've reposted online for you to peruse. This column is also included in his very cool book "Steal This Sound" from Backbeat Books. The gist of the sound is a dual oscillator setup with both waveforms set to pretty narrow pulse waves, with little to no detuning. On most analog and subtractive synths, this is achieved by using a Pulse wave and using a pulse-width parameter set to below 50 percent (around 20 percent is best), so it's more narrow and nasal compared to the pure square wave you would get at 50 percent. The filter is open to around 75 percent, and you'll want to dial in a bit of resonance, maybe 20 percent. A simple "organ" envelope (instant on, full sustain, instant off) for the amplitude and you're pretty much there.

Mitchell's column teaches how to do this on a Prophet-5 (real or virtual), as Winwood used one extensively at that time. But reading interviews from that time (like the June '81 *Keyboard*), Winwood stated that he used a Multimoog for the solo in "While You See a Chance." He also told *Musician* magazine in October 1982, "the Multimoog is where I get the effect that everybody thinks is a saxophone." That should put to rest any Internet chatter that it was a Mini-

- Winwood performance videos.
- Read our column on how to get his synth sound.

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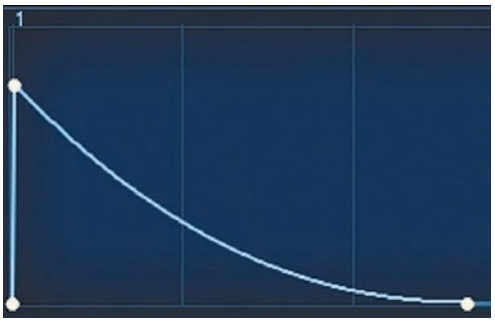


Fig. 1. A basic ramp-down envelope shape.

moog, or even a Yamaha DX7, which he did use later in concert.

Digging further, a friend of mine, Bill Busch ("burningbusch" on the Keyboard Corner and Korg Forums groups) feels that adding a touch of pulse width modulation to one of the oscillators helps give the note attack more interest, and this was possible on the Multimoog (as well as the Prophet-5) by routing an envelope generator to the PWM of one of the oscillators (so the effect is not too pronounced). Most modern synths offer modulation routings that would allow this: Create a gentle ramp-down envelope shape (see Figure 1) and use that to modulate the level of the PWM with a positive amount, so the effect happens instantly and fades away gently. How gently? That's up to your taste and ears—too fast and it sounds like a "thwack," too slow and your sustained notes might sound too animated and/or detuned. Experiment with the envelope to PWM modulation amount as well.

My Favorite Winwood Solo

To discuss his actual playing, many feel that he just used simple pentatonic licks, mostly the major pentatonic style we studied in the November 2014 column. But I find more variety. First off, let's point to the fact that he's playing like many of the great R&B sax players and guitar players did, with simple, melodic lines that are imbued with soul. Surely his guitar chops paved the way for this approach, as did his respect for classic blues and soul.

To showcase this, let's work through a solo in the style of a lesser-known song from *AoaD* (gotta love those acronymns), "Slowdown Sundown." It's a heartfelt country-blues ballad with a masterful synth solo starting at 2:46. Winwood nails the tone, the feel, and most importantly the soulful bends. You can listen to the genuine article on YouTube or Spotify via the links at keyboardmag.com/january2015.

First let's discuss the note choices (see **Ex. 1**). The song is in *G* major, and the solo starts on the *IV* chord, *C*. Just as in classic blues he plays around with a *C* Mixolydian scale, treating the chord like a dominant seventh. Each phrase has a strong pull back to the tonic *G* note, with a recurring motif of *B♭-A-G*, giving it a bluesy feel. You could argue that he's simply using the *G* major blues scale I taught you in October 2014, with an added *C* note. Both answers are right! Bars 3 to 5 use the *G* major pentatonic nicely. But I love how in bar 6 he plays a very bluesy line instead of adhering to the *Dsus* chord sound. Is he superimposing a *D7#9* over the *sus* chord, or just playing *G* Dorian or *G* Mixolydian with a flat third? Bars 9-12 are back to *G* pentatonic choices with great melodicism, followed by a return to bluesy licks for the next two bars with that recurrent *B♭-A-G* motif he established earlier.

The Bends

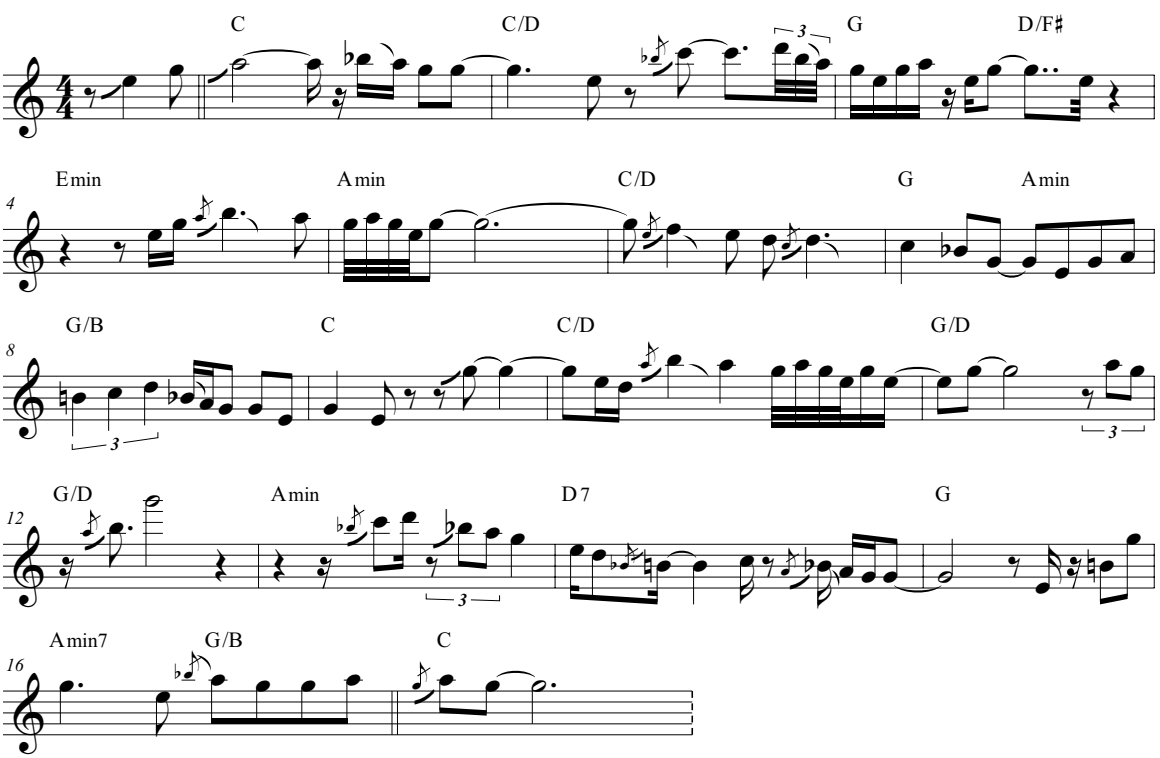
As pleasant and melodic as the notes are, it's Winwood's masterful bends that give this solo its soulful character. Winwood employs a wide vocabulary of bends, including:

1. Scoops from below (the opening note, the high *G* in bar 9): move the pitch-bend lower, play the note and then return to center.

2. Half-step falls from above (the *B♭-A-G* riffs in bars 2, 3, 8, and 16): move the pitch-bend higher, play the note, and then return to center.

3. Whole-step bends up (the high *C* in bar 2, the long bends up and then back down in bars 4 and 10, and so on).

4. Some choice half-step upward bends (like the bluesy lick in bar 14).

Ex. 1.

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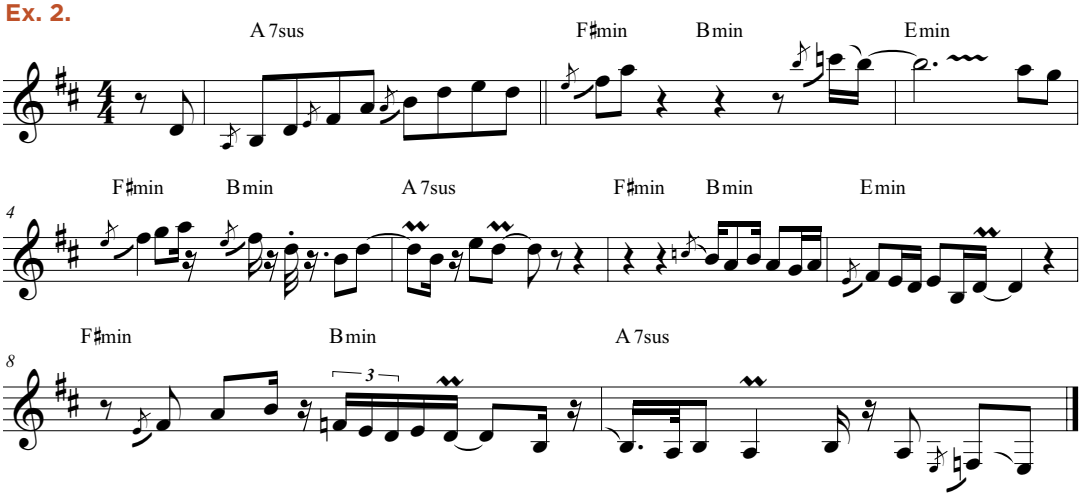
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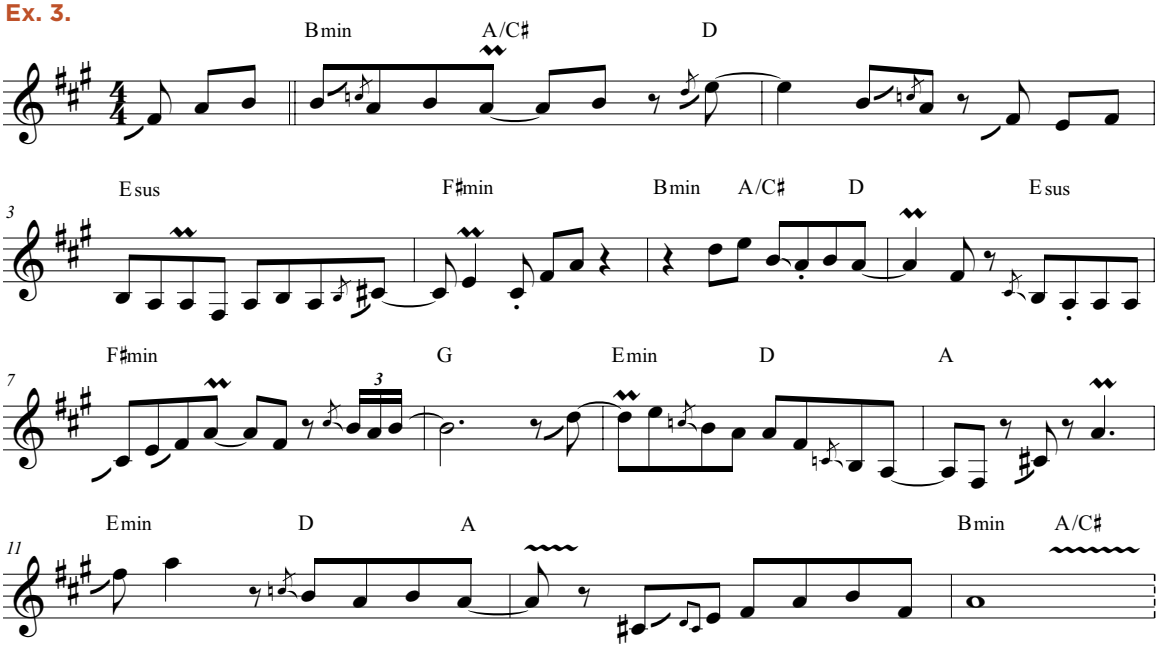
5. Bar 9's wonderful lick includes a half-step up, followed by the classic "play the note then bend up a whole-step from the note below into the same note" fusion lick we discussed in the February 2012 column, then again in the George Duke master class in September 2013.

Try to practice this solo against the recording and you will be amazed at how perfect every one of his bends are, with no trace of the bent note coming back to "zero" unless he wanted it to. It's not just his great chops at work here. Winwood stated in interviews that he gravitated to the Multimoog because it had a ribbon controller instead of pitch wheels, and he grew to appreciate that approach since it gave him an instant return-to-zero. So if your synth/controller has a ribbon, try routing it to pitch and practicing your bends from there. If not, we all just have to practice more and get the licks clean.

A More Familiar Sound

Ex. 2 is more like a typical Winwood solo (such as the one on "Second Hand Woman"), utilizing pentatonic and "inside" scale/note choices. It's in the key of *D*, although the progression never states that chord. Think of it as *iii* minor, *vi* minor, *ii* minor; then *iii* minor, *vi* minor, and *Vsus*. The opening riff is *D* major pentatonic, followed by a nice bluesy addition of the *C* natural. The phrase from bar 3 to 5 uses the first five notes of the *D* major scale, similar to what we analyzed in the *Morning* solo by David Foster on the Al Jarreau album of the same name—very inside, and very melodic.

Note: As an approach to "happy" pop tunes you can use the major blues (1, 2, ♭3, 3, 5 and 6) and add the fourth scale tone and get a lot of mileage from it. At that point you're only missing the seventh scale tone. Add it (the flat seventh) and you have a scale sometimes called the Mixolydian blues scale. You can also think of it as the Mixolydian mode with the added flat third.

Bar 6 brings back that bluesy *C* natural and then has a lick that seems to follow the *D* scale, and creates nice color by not trying to outline the chords, so by the time he gets to the *E* minor he lands on the *F♯*, which is the second/ninth—a nice color tone. The solo closes out with a tasty *B* minor blues figure.

One of Winwood's most famous solos is from "Valerie." It's very inside and pentatonic and a lot of fun to play. The song is in *A*, with a nice climbing chord progression. Most of the phrases are straight-up *A* major pentatonic, with a few *D* notes thrown in, giving us that same 1, 2, 3, 4, 5, 6 scale we discussed earlier. With a couple of tasty bends bringing in the *C* natural (flat third), he's back to that same Mixolydian blues scale we just discussed. This is a much more "inside" way of getting just a little bluesy in a major key without using the traditional blues scale of 1, ♭3, 4, ♭5, 5, and ♭7 (see **Ex. 3**).

Pay attention to the nice mix of scooped bends and upward bends, and especially the very fast half-step up-and-back-down bend that acts more as an ornament to the *C♯* in bar 13. Tasty stuff! ♫

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Time To Re-Order

SLICE AND ARRANGE LOOPS FOR INSPIRED MELODIES

BY FRANCIS PRÈVE

COMING UP WITH COOL LEADS FOR YOUR TRACKS AND REMIXES CAN BE CHALLENGING, ESPECIALLY WHEN you've got a tight deadline and the muses are on vacation. Over the years, I've developed a technique for overcoming creative blocks, and it works every time. The underlying concept here is to do an end run around your lack of inspiration by taking your ego out of the loop (pun intended) and just using your ears to discover what feels right.

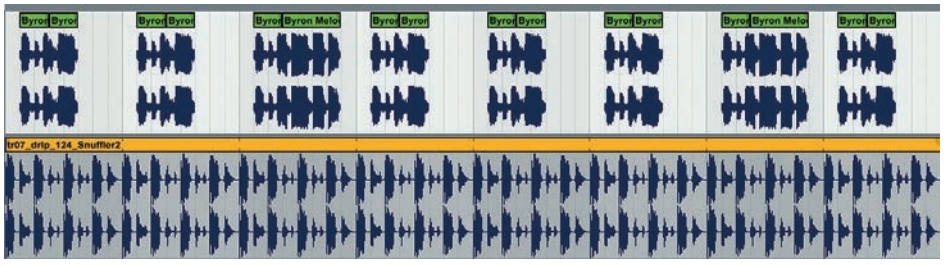
The secret is to start with a soloed or instrument riff and then twist it into an entirely new idea. To be clear, you should always use a loop from a license-free source rather than sampling copyrighted material, which is illegal unless you get sample clearance from the label and artist. That said, don't worry about savvy producers "trainspotting" your soundware selection and accusing you of slacking off, because by the time you're finished, you'll have left the original melody far behind and have something totally unique. Let's get started.

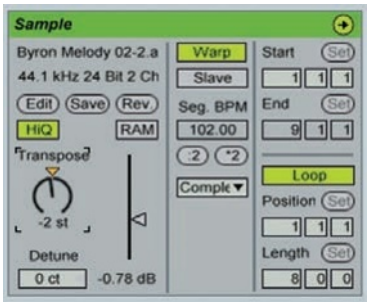
Step 1

Start by searching your loop libraries for a reasonably long sample with a great melody. Four to eight measures works well, as you want to have enough material available. Add this sample to a track, with just your drums playing over it as a guide.

Step 2

Chop the vocal or instrument sample into a new melody with different phrasings and syncopations. Maybe that sounds like I'm saying, "To be a millionaire, first, go get a million dollars," but it's easier than it seems. A good starting point is to cut the loop into eighth note chunks, then delete any empty sections and work with the slices that contain melodic elements that are of interest. Make sure you rearrange the notes as much as possible, so that the result feels fresh and new.





Step 3

Bounce the chopped melody to a new track so that your edits are stitched together. Ableton Live's "consolidate" feature does a great job of this. Then, transpose the resulting audio to the key of your project.

Step 4

The final step is to transcribe your new melody and use a clever synth sound for the riff. I like to do this by ear, so I can embellish it further, but you can also use Ableton's pitch-to-MIDI functions to speed things up.

SOUNDCLOUD

Original before-and-after audio examples.

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MOOG MUSIC
Sub 37

BY FRANCIS PRÈVE

Keyboard K KEYBUY AWARD

WHEN MOOG DEBUTED THE SUB 37 AT LAST YEAR'S WINTER NAMM, ATTENDEES were somewhat split about its impact. On one hand, there was a lot of commotion about its combination of paraphonic two-voice polyphony and a rather impressive display of enhanced synthesis functionality. On the other, there was some cynical grumbling about it just being "another Phatty." Either way, there was a lot of buzz on both sides of the aisle and as a Phatty owner myself I was more than a little curious. After what seems like an eternity, the Sub 37 started shipping last autumn, and I'll just say it up front: This synth is *anything* but "another Phatty."

Hardware

From a design standpoint, the Sub 37 is the most approachable synth Moog has released since the Minimoog Voyager. Like the recent Sub Phatty (and unlike the Little and Slim models) the front panel is gloriously festooned with knobs and buttons. It's pretty much one knob or switch per function, with only a tiny bit of function toggling to keep things tidy. And unlike the Sub Phatty, there are enough keys to truly rip when soloing—three octaves, to be exact. As with all Moog products, construction is top-notch, too. Moog certainly knows that its gear is a prominent part of touring rigs and the Sub 37 is definitely built for that.

Since the Sub 37 is based on the Phatty architecture, its audio signal path will be immediately familiar, with two oscillators and a noise generator feeding a Moog filter and amp. Straightforward and timeless, yes, but also a major leap forward as we'll see when we dive in.

Oscillators. The Sub 37's dual oscillators are based on Moog's continuously variable waveform selectors, which are always a joy to use. For those who haven't had the pleasure of working with them yet, here's the big picture. The 21st-century Moog design eschews switchable waveforms in favor of a rotary pot that smoothly scans between triangle, then sawtooth, then square, and finally narrow pulse. In practice, this design really delivers the best of

Snap Judgment

PROS Two-voice paraphonic polyphony. Trademark Moog sound. Extensive new modulation features. Impressive and powerful arpeggiator includes step sequencing functions.

CONS No realistic grand piano sounds? Lacks built-in espresso machine? We're scraping here . . .

all worlds when it comes to dialing in precise harmonic spectra. For example, positioning the knob between triangle and sawtooth delivers that classic saw sound with the added benefit of a reinforced fundamental—perfect for meaty bass sounds. Positioning the value between saw and square delivers that distinctive lead sound that Deadmau5 and Wolfgang Gartner popularized with their early electro tracks. After that, it's straight-up pulse width modulation, which we all know and love.

While previous Phatty models simply included octave, tuning, and hard sync options, the Sub 37 offers a few worthwhile additions to the original architecture. For starters, you can set the oscillators to reset their phase every time for each new note, which is an excellent trick for keeping basses tight and punchy. There's also a new "Beat Freq" knob that allows you to precisely dial in a detuning value that remains consistent across the keyboard (a feature I always loved about my old Kurzweil K2000). Finally, there are two buttons that govern the Sub 37's new paraphonic mode: Duo and KB Control. Duo toggles the paraphonic mode on and off, while the KB Control parameter switches oscillator 2's priority between low note, high note, and drone. While most users will focus on the new duophonic capabilities, I was instantly mesmerized by the ability to turn on both Duo *and* hard sync, which produced some searing lead sounds, with that classic sync effect controlled directly by my playing style. It's hard to overstate how cool this sounds and it really gives the Sub 37 a truly distinctive flavor compared to the other Phatties and even the Voyager itself.

It's worth mentioning here that the Sub 37's glide (portamento) features are extremely comprehensive. It can be applied independently to either oscillator—another huge plus for duophonic playing—and can be switched between three different modes: linear constant rate, linear constant time, and exponential. This allows for some really subtle fine-tuning of its behavior and will definitely appeal to finicky prog rock soloists. There are also switches for legato and gated functions, as well as a simple on/off switch, which is a lovely touch.

Mixer. The Sub 37's mixer is another step forward from previous models. Like the Sub Phatty, there are knobs for each oscillator, the noise generator, and an additional sub oscillator that tracks the pitch of oscillator 1 an octave lower. From there, Moog added an additional knob that serves the dual function of either controlling a feedback loop in the filter circuit or adjusting the gain of an external signal input (for processing by the Sub 37's filter and amp sections). Finally, each knob also has a dedicated mute switch so you can quickly turn its audio on and off, which is a real boon for advanced sound design techniques.

Filter. Of course, the Sub 37 includes Moog's legendary ladder filter, with its juicy resonance and velvety warmth. Like on the Sub Phatty, there's a knob for Moog's innovative MultiDrive feature, which blends overdrive with a touch of compression for incredible fatness. The filter also includes front panel switching of its roll-off slope in four discrete steps from single-pole (6dB per

octave) to the classic four-pole (24dB per octave) sound that Bob Moog pioneered in the 1960s. The Little and Slim Phatties also had this feature, but tucked it deep in their LCD menus. It's great to see it on the front panel now, where it always belonged.

Envelopes. Obviously, the standard Phatty ADSR envelopes are included here as well: one each for filter and amp. But this implementation includes quite a few new options, many of which work harmoniously together to give the Sub 37 a lot more range than the majority of modern analog synthesizers, including the Voyager.

For example, each envelope now includes five buttons below the ADSR knobs: Multi Trig, Reset, Sync, Loop, and Latch On. Multi Trig and Reset are tailor-made for the new paraphonic features, allowing each new note to retrigger the envelope in various ways, even if a second key is held. Sync causes the envelope to retrigger in sync with the arpeggiator rate (even if the arpeggiator is off) or sync to a MIDI clock. Loop causes the envelope to continuously cycle, based on its settings, turning it into a highly customizable LFO of sorts. Latch On is basically a gate switch, with the overall level set by the sustain parameter.

Between the two envelopes is a "knob shift" section, activated by its own button. This switches the function of the ADSR knobs to control four additional envelope parameters, including an initial delay segment, hold time between the attack and decay segments (for added punchiness), velocity sensitivity for each envelope, and a keyboard tracking function that increases the envelope rates as you play up the keyboard.

All in all, these are the most comprehensive ADSR envelopes Moog has ever produced. By combining these various features, it's possible to create some truly impressive effects that work in tandem with your playing (or sequencing) style.

Modulation. The LFOs are another area where Moog has really brought their A-game to the Sub 37's design. Whereas previous Phatties included a single basic LFO that could be routed to a few destinations, the Sub 37 includes two identical LFOs with some really impressive routing options.

Like the originals, there's a Rate knob and waveform selector that toggles between triangle, square, up and down sawtooths, random (sample-and-hold) and the filter envelope. That's now part and parcel of the Phatty sound. What takes it up another notch is the fact that each LFO can simultaneously modulate the pitch of either (or both) oscillators, the filter cutoff, and a third destination that's switchable between each the oscillators' waveform parameters, VCA level, noise level, envelope rates, or the other LFO's rate. That's a lot of sonic flexibility in itself, but both LFOs also include the ability to operate in the audio range, sync to the arpeggiator (or MIDI) clock, and retrigger with each note played. There's an additional switch that allows the each LFO to have its own performance controls, for modulation wheel and velocity effects.

If these updates were applied to a single integrated LFO, I'd be impressed, but the fact that the Sub 37 now sports dual LFOs of this complexity means that this synth is more than just another iteration of the "Moog sound."

Arpeggiator. Moog's latest synth is no slouch in the arpeggiator department either. The amenities here go quite a bit further than the usual multi-octave up/down fare in several ways. For starters, there are two additional arpeggiator patterns included in the selector. The aptly named Order mode arpeggiates according to the order in which the keys were played, while Random delivers that classic Roland-style randomized pattern that was a big part of the sound of Duran Duran's early hits. Another intelligent inclusion is the ability to tweak the results with both "back and forth" and inverted options, which add greatly to its originality in live performance situations.

The real show-stopper here is the arpeggiator's step sequencer mode, which allows you to set up custom sequences similar to a vintage Roland SH-101, with the ability to add rests and ties, as well as the added bonus of being able to transpose those sequences on the fly.

What's more, this step sequencer makes great use of the Sub 37's duo mode and elaborate glide features. In duo mode, steps can either use one or two voices, based on how you enter the steps. With some careful planning, you can get some truly impressive results that would be hard to achieve via any other method. As for glide functions, the Sub 37's arpeggiator does a knockout job of emulating the slides and swoops of the Roland TB-303. Just set the glide to "mode 2" and use the sequencer's tie function to activate the slide. Several of the factory presets ably demonstrate this feature, but with a little practice it's fairly easy to whip up your own—a lot faster than on a real TB-303, incidentally.

In Use

While I was certainly excited to get my hands on the Sub 37, I honestly thought it would just be a cooler, updated version of the Sub Phatty with some duophonic features. After 15 minutes, that preconception was pleasantly shattered.

As a monophonic synth, the Sub 37 is a monster. If you take it easy, you can get pretty much any classic Phatty sound in moments, thanks to the knob-per-function panel. Dig a bit deeper and you can generate some incredibly dynamic and fluid performance patches that go beyond simple controller tricks, thanks to the new envelope and LFO amenities. With these, you can create unique patches that are tightly tailored to your playing style—even in a song-specific capacity, since these details are all integrated into the preset memory, as opposed to being global settings.

Duophonic mode was far more impressive than I'd originally anticipated. There are a few live performance videos on the Moog site that show how "polyphonic" the effect is, if you tackle it correctly. In fact, I dare say that Clavinet players will have a blast with it, since many of the classic Clav approaches involve a lot of syncopated, staccato alternating of hands with open voicings on the top.

That said, if you're not a chops-heavy player, you can still use the duophonic mode in a more traditional style, with bass in the left and lead in the right hand, which works especially well if you make use of oscillator 2's note priority modes and the extensive glide options. The fact that the sub-oscillator is tied to oscillator 1 will make those bass notes rather massive, too.

The real coup for me was the hard-sync duophonic trick I mentioned in the oscillator section. There's a demonstration of it in the audio examples for this review, but it has to be played to be experienced. I've never heard another synth do this trick so beautifully, and for some keyboardists this alone will be worth the price of admission.

Conclusions

Moog Music is probably going to hate me for saying this, but given the choice between the Sub 37 and a Minimoog Voyager (which is about double the price), I'd go for the Sub 3. Between the utterly unique sound of its paraphonic architecture, the extensive modulation amenities, and the immediacy of its panel layout, the Sub 37 is an absolute beast. If you're on the fence about picking up a modern Moog or are thinking about upgrading from an older Phatty model, the decision is made. It's time for a new love affair. ♫

Bottom Line

Much more than an updated Phatty, and quite possibly the best bang for buck in Moog's whole product line.

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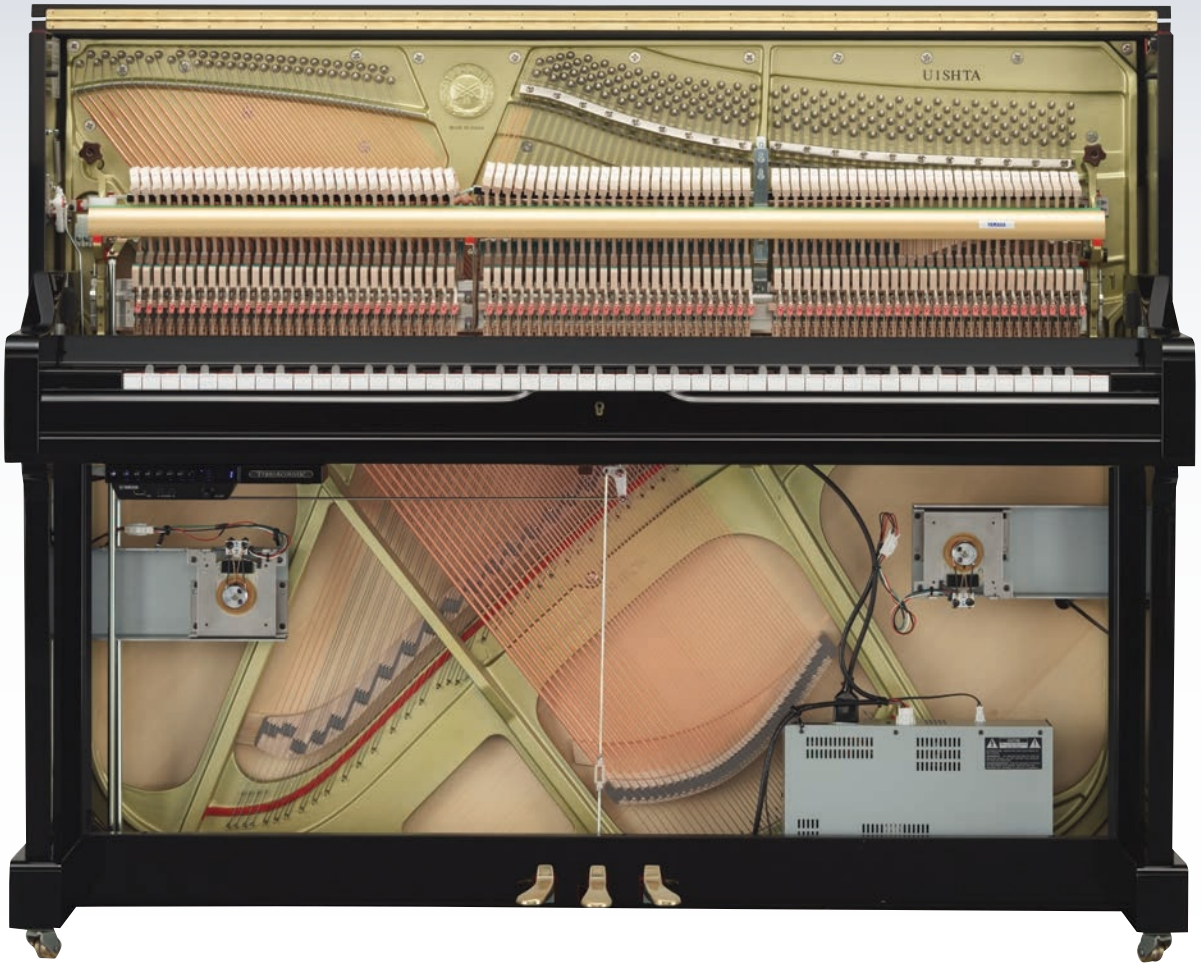

YAMAHA

U1TA TransAcoustic

BY STEPHEN FORTNER

YAMAHA HAS LONG BEEN AT THE FOREFRONT OF INCORPORATING DIGITAL elements into acoustic pianos and vice-versa. Upright and grand models have been fitted with sample-based engines that provide additional piano and non-piano sounds, and MIDI has allowed for highly pianistic and musical control of external sound sources. In the other direction, instruments like the GranTouch series married bona fide grand piano actions to all-digital sound engines, with the more recent AvantGrand pianos adding multi-channel sound, careful speaker placement, and cabinet design in the service of realism. Yamaha now makes its latest statement of this hybrid philosophy with the TransAcoustic line: real acoustic pianos with supplemental digital sound engines that—here's the kicker—use the piano soundboard itself, not conventional speakers, as the amplification system. It's an intriguing proof of concept and hugely engaging to play, but do the practical benefits add up to more than that? Let's investigate.

How It Works

Yamaha sent a U1TA for review, a piano that begins life as the 48-inch tall U1 upright—an instrument so widely used that the "U" should stand for "ubiquitous." There's also a TransAcoustic baby grand, the GC1TA, which measures in at five feet, three inches and a $31,099 list price. Of course, the keyboard is MIDI'ed with optical sensors, which drive the digital sound engine—or an external synth of your choosing, thanks to the inclusion of five-pin MIDI in and out ports. The interface to all things digital is a black panel that resides discreetly under the bass end of the

keyboard and provides 19 sounds ranging from Yamaha CFX concert grand to electric pianos to harpsichord, mallets, strings, and pipe organs (Figure 2).

Now for what makes it "TransAcoustic." The digital sound engine drives two transducers—located on either side, as shown in the photo at left—that convey vibrations to the wooden soundboard. This idea isn't new in itself; "vibration speaker" is the generic term and piano builders have experimented with it before (though not always in products that made it to market). The trouble is, physically mounting a speaker onto a soundboard is the last thing you want to do, as it dampens the soundboard's vibration and can lead to damage if the wood contracts or expands over time. The traditional other option is pointing a speaker that's mounted on something else *at* the soundboard. No matter how close it is, you still lose energy in the air between transducer and soundboard, and things won't sound right.

Yamaha's solution is basically to split the difference. Only the voice coil—the little wire-wrapped cylinder from which the rest of a conventional speaker funnels out—is mounted on the soundboard itself (Figure 1). The coil is so lightweight that it doesn't cause any dampening issues. The magnet and other heavy bits are mounted on the surrounding bracing, such that the voice coil can surround the magnet without actually touching it. When the speaker is energized, the voice coil's movements vibrate the soundboard without weighing it down. In effect, the soundboard plays the role of "speaker cone."

What does this sound like in practice? Incredibly convincing. With every other type of acoustic-piano-plus-digital layering I've experimented with, I could never quite get away from the sense that the digitally generated sounds were coming from point-sources different from the piano itself—even if the speakers were cleverly integrated into the piano's cabinetry. With the U1TA, sampled grand, electric pianos, strings, and other sounds "bloom" from within the piano and benefit from its natural reverb in the exact same way as the piano's own strings. Even if I disengaged the acoustic side using the mechanical "silent piano" feature (more on this shortly) and listened to just the digital sounds, I was hard pressed to localize their origin to where those transducers actually sit; all the sound was just wonderfully *there*. I'd even mike the U1TA for recording a layer of piano and another sound where I wanted everything to seem like it's coming from the same acoustic space. Because it is.

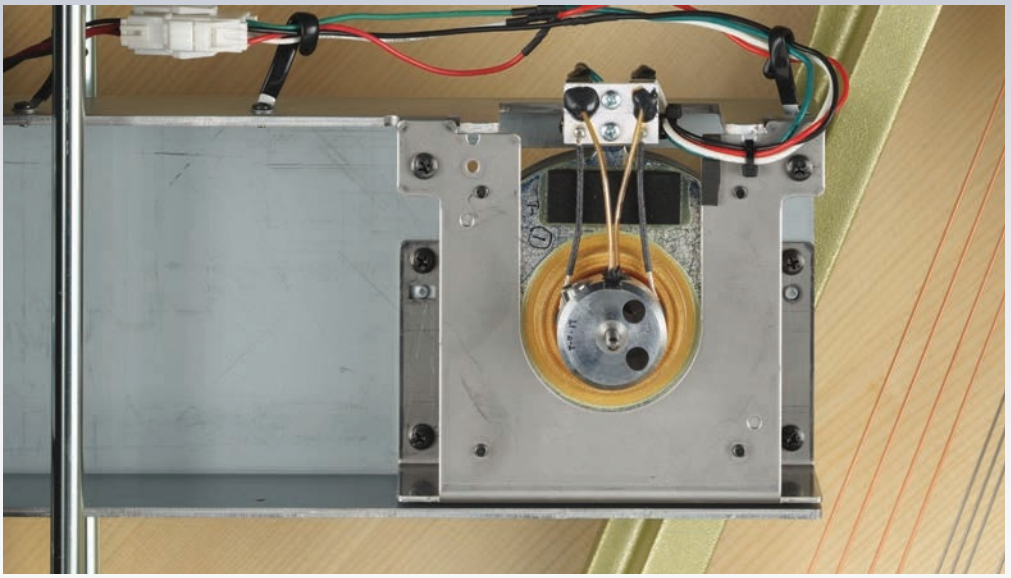

Fig. 1. The transducer assembly that transmits sonic vibrations to the piano soundboard.

Digital Section

Feature-wise, the U1TA's digital sound engine is akin to a fairly basic digital slab piano, albeit with the stunning multisample of Yamaha's CFX concert grand I first encountered in the NU1 (reviewed May '13) taking center stage. Sparkly DX7-style electric piano, Rhodes, and Wurly are covered accurately and are fun to play, though the latter two could have a bit more attitude. Four pipe organs provide registrations from sparse to full, and all sound lovely given a combination of the onboard reverb and the piano's natural acoustics. The "Jazz Organ" patch is standard ROMpler fare, but with the nice perk of the soft pedal toggling the speed of a surprisingly good Leslie simulation. The soft pedal also toggles chorus on electric pianos and vibrato on the vibraphone. The final three programs layer the CFX sample with strings, synth pad, and DX7 electric piano, letting you cover David Foster-style ballad layers with aplomb.

A simple MIDI song recorder includes a metronome that you can adapt to any time signature, as well as song storage/playback via a connected USB drive. Note that the U1TA is not a Disklavier piano, so MIDI songs will play only the digital sounds as opposed to triggering the real piano action.

Of course, it's important that the acoustic and digital sides be in tune with one another. Strings, pads, organs, and the like sound different enough from piano that your ear forgives small tuning discrepancies, but these become more obvious if layering the acoustic piano with the CFX grand sample. Your UT1A's acoustic half is the domain of a professional tuner, but a couple of parameters help you bring the digital side in line. There's overall fine-tuning, then you can select from three stretch tuning curves: upright, baby grand, and concert grand. Stretch tuning is the practice of tuning notes slightly lower or higher than their "correct" values as you progress toward the respective extremes of the keyboard. In general,

Snap Judgment

PROS Real acoustic piano coupled with digital sound engine. Digital sounds are amplified through piano soundboard as opposed to conventional speakers, resulting in very natural sounding layers. Gorgeous Yamaha CFX concert grand multisample. Acoustic piano can be mechanically silenced for digital-only practice. MIDI output lets you use the piano keyboard as a controller.

CONS Some digital sounds can't get nearly as loud as the acoustic piano, even at maximum volume. No expression pedal input for hands-free level control of digital sounds. No sostenuto, as middle pedal is the acoustic piano silencer.

Fig. 2. This minimalist panel controls the digital sounds, song recorder, metronome, and tuning functions.

larger pianos require less stretch, but that's one variable among many—this is a subtle art.

For that reason, here's a strategy for maximizing your enjoyment of a TransAcoustic piano. When you take delivery, audition the CFX sample—whose source piano was doubtlessly tuned to perfection for the sampling sessions—with the acoustic piano in silent mode. Pick the stretch curve that's most pleasing to your ears and then have your professional tuner use *that* as the reference for tuning the acoustic side.

Speaking of tuning, not only can the U1TA pass along external audio (from a 1/8" stereo input) to the soundboard, but it can fine-tune that audio up to a half-step in either direction. Do tracks you'd like to play along with from your iPod sound a bit sharp or flat relative to the piano? Not a problem.

In Use

Like the AvantGrand and NU1 before it, the U1TA occupied a corner of my living room over the holiday season, entertaining friends and family and serving as my practice machine when I didn't want to boot up the full studio. (If you make most of your music in a technology cave, I highly recommend having a self-contained "social instrument" you can play outside of it.)

In acoustic-only playing, the U1TA sounds rich across the entire range and has very good bass for its size, but of course, can't deliver the lows of a good baby grand. (The taller Yamaha U3 upright is as bassy as many baby grands I've played and in fact better than some, so I hope Yamaha offers a TransAcoustic version of it in the future.) That's why it's very satisfying to be able to layer in some of the deep, buttery bass of the CFX concert grand sample. In fact, when I wanted to play with a sense of full dynamic range but an unyielding volume ceiling, I preferred playing the CFX sample by itself.

Which brings us to the "silent piano" mode. Press the middle pedal and slide it to the left, and the hammers decouple from the strings, letting you play just the digital sounds, either off the soundboard or through headphones via one of two 1/8" stereo mini jacks. (These and a 1/8" line-level aux output comprise the U1TA's audio outs. I'd like to see 1/4" outs like on the comparatively modest NU1.) Your key strikes still move the hammers—they're just not quite hitting the strings—so all the weight, escapement, and other tactile feedback of the piano action is retained. Of course, you lose the sostenuto pedal in trade. On Yamaha grands (TransAcoustic and otherwise) that have the silent option, it engages via a lever that pulls out like a classic car's parking brake, leaving the middle pedal free for true sostenuto.

In terms of loudness, the acoustic U1 is a formidably room-filling piano, and if the U1TA experience suffers from anything, it's that

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even with the volume of the digital section at maximum, some sounds just can't compete with the hammers and strings when used in layers. Choosing the easiest velocity response (there are five settings plus a fixed option) evened the playing field somewhat, and sounds that had more high-frequency content than piano at a given note (pipe organs and the string ensemble, for example) fared better overall. But with an acoustic piano-plus-Rhodes layer I wanted to play on Steely Dan tunes like "Gaucho" and "Glamour Profession," the Rhodes sound struggled to keep up no matter how I tried to finesse the velocity of my key strikes. On the other hand, the "Synth Pad" program (number 16) added lovely body to the acoustic piano in spite of having a fairly muted frequency spectrum—playing this combo on Spandau Ballet's "True" made me downright misty-eyed.

Conclusions

TransAcoustic sound reproduction is a true technological milestone in a keyboard industry too often dominated by marketing buzzwords. This isn't one of them—the success with which the U1TA and its bigger brother the GC1TA "acoustify" digitally sourced sounds is an honest-to-goodness Big Deal. That said, the U1TA seems targeted at a rather specific customer. Who's that? First and foremost, you have your reasons for insisting on a real acoustic piano. (If that's all you need, a standard U1 lists for $6,000 less and restored specimens can be had under $5,000.) You also want the benefits of a digital piano: tuning stability, quiet practice, MIDI recorder, extra sounds, and so on. (If that's all you need, consider an NU1 at a fraction of the price.) You want to be able to combine acoustic and digital personalities on demand, without worrying about an external sound system and without any audible seams. At the same time, either personality has to get out of your way in an instant if you so choose. If all of the above has you nodding your head in agreement, there's no question that a Yamaha TransAcoustic piano will serve, inspire, and delight you in a way that nothing else currently made can. ♫

Bottom Line

If you need this, you know who you are, and nothing else will do.

$16,699 list
yamaha.com

KORG
Triton Taktile

BY ELI WOLF

IT CAN BE DIFFICULT TO GET EXCITED ABOUT ANOTHER MIDI CONTROLLER keyboard. Some combination of trigger pads, knobs, sliders, and (oh yeah) keys has become a known quantity, and there are so many options out there. However, if the way you play is keyboard-centric and your sounds come out of a computer, you need one. This is doubly true if the desk space between your speakers is tight and you need your note-entry device to double as a control surface for your DAW software. With the Triton Taktile, Korg aims to sweeten the pot by offering something we haven't seen in a MIDI controller in some years: built-in sounds.

Internal Sounds

The sounds in question are the 512 programs from the original factory bank of Korg's "classic" Triton synth workstation, first introduced in 1999. You could argue that they're a bit dated, but there's a reason they held sway over pop, hip-hop, R&B, and dance music production for pretty much the first decade of the new millennium, and they still hold up quite well. Strings in particular are lush and rich. The main acoustic piano sound is a bit bright and one-dimensional compared to even a basic stage piano made within the past five years, but I'd still use it for a solo or chunky chords in a rock or pop song where the whole point is to cut through the mix. The basic Rhodes electric piano sound ("Stage EP 1") is surprisingly better than I remembered from the original Triton. Tons of EP variations are very useful musically, but the single Clav sound I could find is on the nasal side—more "Superstition" and less "Use Me." Synths cover both analog subtractive-style sounds and more proudly digital timbres with lots of motion and sparkle. Acoustic and electric guitars are also pleasant surprises in the realism department, and drums offer plenty of punch.

When stepping through the internal sounds,

Snap Judgment

PROS Classic Triton sounds still hold up surprisingly well. Smooth DAW integration via lots of included presets. X/Y touchpad has a Kaossilator-like note-playing mode. Weighs just over eight pounds.

CONS USB is only power option. Stereo 1/8″ mini headphone jack is only audio output. Some musicians won't like all the jacks being on the right side. No aftertouch.

it was initially confusing that I couldn't find "+/-" increment buttons on the Triton Taktile. Then I discovered that the ribbon controller directly below the X/Y touchpad does double duty for this, with a tap on either end stepping you up or down a program. Sliding your finger along it will change sounds willy-nilly, so mind the mode it's in. I also really appreciated the dedicated Sound button near the upper left corner of the touchpad. It turns the internal sounds on or off with one tap, saving you the trouble of jockeying a volume knob or slider that you might prefer to map to something in software.

There doesn't seem to be a way to set up splits, layers, or multis of the internal sounds from the Triton Taktile's front panel (though some sounds are themselves layers, such as piano with strings or a synth pad). That feels acceptable in the context of these sounds being supplemental on a machine that's mainly intended as a controller for software-based music production.

Hardware and Controls

In addition to the expected gamut of assignable MIDI messages, the knobs and sliders are pre-mapped to a basic but useful complement of parameters for the internal sounds: volume; filter cutoff, and resonance; amplitude envelope attack, decay, and release; and sends for two multi-effects (MFX).

Located centrally, the versatile X/Y touchpad can be used for two-axis effects (on internal sounds it defaults to filter cutoff and resonance), to play an internal or external sound in Kaossilator fashion using any of 35 programmable scales, or even as a trackpad that replaces your computer mouse.

Sixteen is certainly a nice number of pads to have; for space reasons, this drops to eight on the 25-key model. They can function as simple note or drum triggers, clip launchers (via DAW control in programs such as Ableton Live), or programmable chord generators—a feature familiar from such high-end Korg workstations as the OASYS and M3. The pads are velocity-sensitive, but have shallower travel and "squish factor" than the MPC-derived pads on Akai control keyboards.

The keyboard itself is fast, reasonably quiet, and for all intents unweighted, though you can feel the small metal weights on the undersides of the keys. It does everything you'd need a synth-action keybed to do, with the exception that if you pay $500 for a 49-key controller, it should sense aftertouch.

Kudos to Korg for including a five-pin MIDI output. That, USB, 1/4" pedal inputs (one switch, one continuous), and the 1/8" stereo audio output (which drives headphones, so turn it down if feeding a line-level input on an amp or audio interface) comprise all the physical I/O on the machine. I have mixed feelings about all of this being on the right-side end cheek of the housing. If you're right-handed, cords would be sitting on your desk where you might want to put your mouse and computer keyboard. Also, the USB port is the only power option, though I tried playing the Taktile stand-alone off an iPad charging brick and things worked. The version 2 firmware update adds iOS compatibility and a power-saving mode for running the Taktile from the iPad on which you're using it to play virtual instrument apps.

DAW Control and Arpeggiator

One of the Triton Taktile's strongest suits is its comprehensive and virtually plug-and-play control over most popular DAWs. It comes preloaded with preset templates for Cubase, Logic Pro, GarageBand, Digital Performer, Pro Tools, Ableton Live, and Sonar, in addition to a generic MIDI control template you can customize. In fact, you can customize any of the templates, saving the results as a "Scene." You might even wish to have more than one Scene for the same program, say, one for studio recording and another for clip-based electronic music performance in Ableton Live.

I say "virtually" plug-and play because for GarageBand and Logic, I had to install a plug-in from Korg's website, and in some of the supported DAWs you'll need to make Preferences settings, but the PDF manual is crystal clear about what to do in all cases. Once you're up and running, the transport controls, sliders, knobs, and buttons all behave as expected (sliders doing volume and knobs doing pan, et cetera). I won't say there's no learning curve at all, but the hunt-and-peck approach got me pretty far in Logic, pretty quickly.

Last but not least, the onboard arpeggiator is an instant fun machine. The pattern selection is fairly 1980s-era (up, down, a couple of up-down options, random, and a chord mode), but the full range of parameters regarding swing, gate time, key sync, octave range, and latch are on hand.

Conclusions

As a MIDI controller the Triton Taktile is pretty deep, and its built-in sounds do more to recommend it than we expected. It's not without competition. For example, Novation's "budget" Impulse keyboard offers aftertouch and a similar complement of physical controls (though with half the drum pads and no internal sounds) as well as the mature Automap ecosystem of DAW and plug-in control, all for less money. The Triton Taktile also doesn't currently come in a 61-key version. That said, it does quite a lot; everything on it works really darned *well*, and the downloadable software bundle is really a cornucopia. In the event of a computer mishap, there's also a lot to be said for hitting the Sound button, grabbing an internal synth, and ripping. If you're shopping for a USB MIDI controller, you'd be doing yourself a disservice not to take your laptop to the music store, plug into a Triton Taktile, and see what it can do for your music-making workflow. ♫

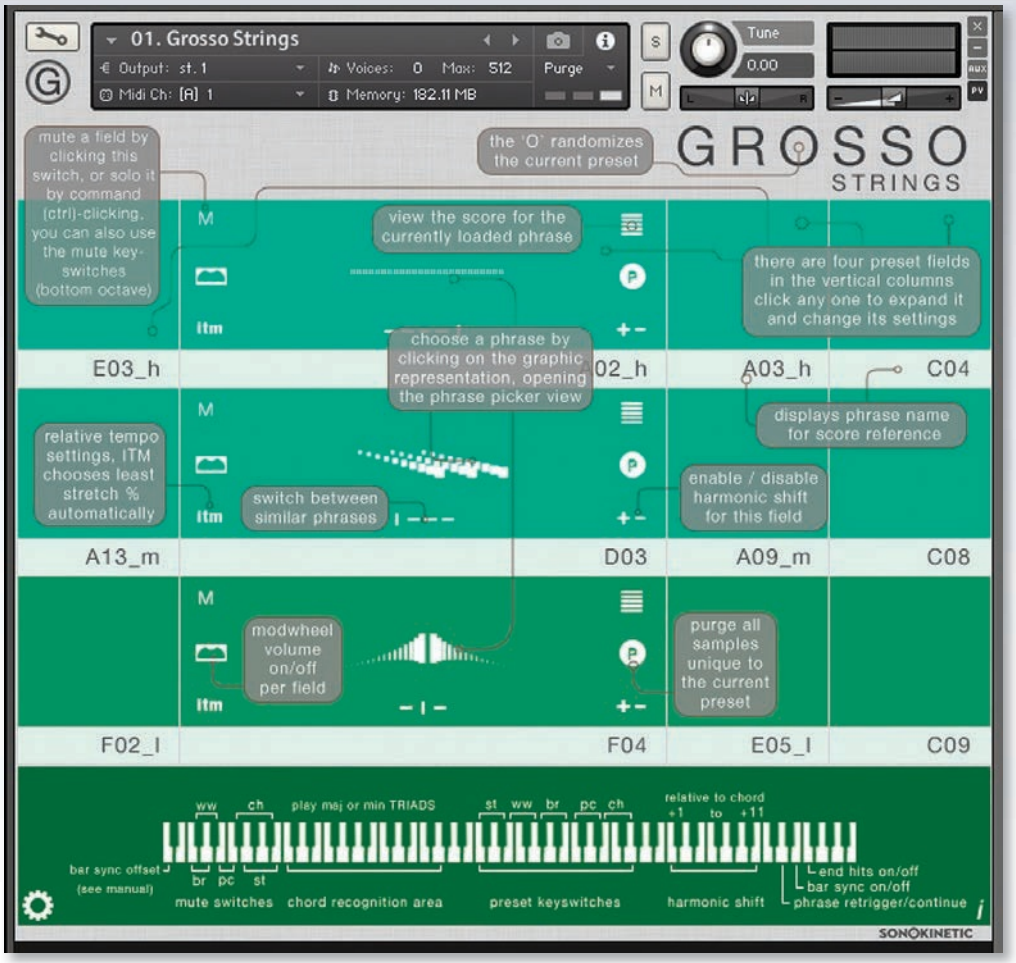
DOWNLOADABLE SOFTWARE

The Triton Taktile comes with a serial number for download of quite the bundle of music software from the Korg License Center. Korg soft synths include the Polysix (shown), MS-20, Mono/Poly, M1Le, and Wavestation, as well as the MDE-X multi-effect plug-in. UVI Digital Synsations; Applied Acoustics Lounge Lizard Session, Ultra Analog Session, and Strum Acoustic Session; Propellerhead Reason Limited; and Toontrack's EzDrummer Lite are included as well. Finally, you get a $50 discount off any version of Ableton Live.

Bottom Line

Built-in sounds give the Triton Taktile the edge for quick inspiration and live performance; easy and thorough DAW control makes it a workhorse in the studio.

$670 list | $499 street
korg.com



SONOKINETIC

Grosso

BY JOHN KROGH

Snap Judgment

PROS Flexible and musical collection of orchestral phrases that can easily be mixed and matched to create complete orchestral passages quickly. Includes all orchestral instrument families, plus choir and Taiko drums. Affordable.

CONS Some minor version 1 bugs (Kontakt would lose the library each time I closed a session). A few performances had suspect timing.

SONOKINETIC MIGHT NOT BE AS MUCH OF A HOUSEHOLD NAME AS SOME other sample developers currently are, but this relative newcomer to the market has a distinct and innovative line of products that pushes the limits of what we can expect from sample-based libraries, both musically and technically. With its latest release, Grosso, Sonokinetic has managed to take orchestral sample libraries in a new direction and to new heights that I suspect will have more established developers rushing to catch up. So what's all the fuss about?

Overview

Grosso comprises sampled loops for four orchestral instrument families—strings, brass, woodwinds, and percussion—plus choir. There are no separate sections for violins, celli, trumpets, flutes, and so on. Instead, a single patch for each instrument family contains all the related samples. The library is presented in 16- and 24-bit formats, and with "lite" versions for each instrument patch that offer one multi-miked perspective, making these patches less CPU- and RAM-intensive. There's also a Transition Builder preset, which I'll get to later.

Four microphone perspectives are available with the "full" patches: close, wide, Decca tree, and far. However, you can only mix between two mic positions within a patch. Fortunately, the perspectives are user-selectable—for example, you could mix close and Decca, or Decca and wide. While control freaks might prefer to create a mix of all four mic positions, I found I had all the mix control I needed with only two.

Sonokinetic describes Grosso as a phrase-based instrument. If you're familiar with other "phrase sample" products, you might interpret this to mean a construction kit-style library with phrases presented in multitrack fashion, allowing you to assemble a credible-sounding track by layering various samples. It's true that Grosso contains an impressive range of orchestral phrases that can be layered and combined to good effect. But Sonokinetic has taken the phrase-based sample library concept to a whole new level.

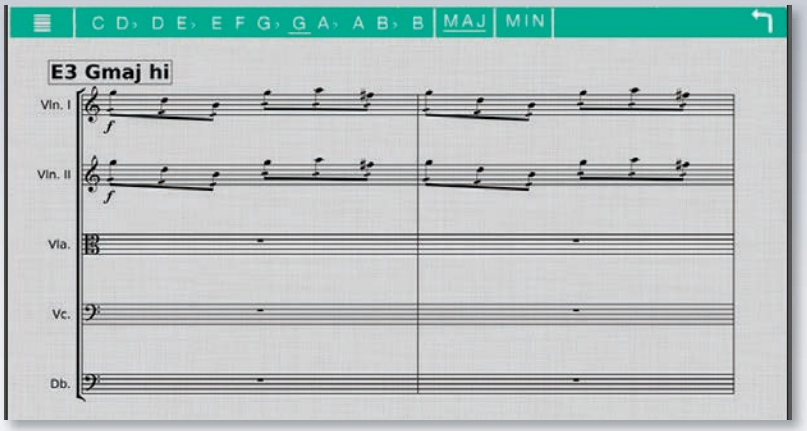



Fig. 1. Here's a look at a high strings phrase. Note that the violins outline a *G* major triad, then play a ninth (*A*) and major seventh (*F♯*) respectively. Many phrases offer extended harmonies similar to this.

Indeed, the "instrument" moniker is well deserved, as Grosso is much more than a collection of related sampled loops that can be minimally time-stretched and pitch-shifted beyond their original tempi and key signatures. Because the phrases were recorded in multiple keys (both major and minor), and thanks to the quality of Kontakt's built-in time-stretching engine and sophisticated scripting capabilities, the phrases can be played across an extreme range of tempos and in all keys without noticeable artifacts. There's a high degree of musicality and musical flexibility to Grosso that I haven't seen in any other phrase-based software instrument to date.

Matrices and Phrases

While a bit of a head-scratcher at first, the user interface is actually quite clever, allowing you to load loops into cells within a 2x4 or 3x4 matrix, and then use key-switches to mute and switch among them on-the-fly. With strings, for example, Grosso provides a 3x4 matrix that, by default, contains high, mid, and low-frequency material (roughly translating to violins playing in their high register, violin II and viola in their lower register, and celli/bass below this). The Woodwind and Brass presets offer 2x3 matrices with phrases organized by low and high. You're free to mix frequency material as you like, however. For example, you could combine multiple low-frequency brass performances to create an intense and muscular passage.

One of the aspects that puts Grosso more in the "instrument" category is that in order to produce any sound, you need to play major or minor triads, which will produce the appropriate tonality. This is made possible through a combination of intelligent composition and orchestration prior to the sampling sessions to ensure musically related parts that will work together when layered, and Kontakt scripting that allows Grosso to interpret chord qualities, including inversions, and dynamically choose samples to produce the desired results.

The performances were played at 135 bpm with a 12/8 feel, which I initially found somewhat limiting for more punctuated 4/4-feeling cues, until I discovered that it *is* possible to achieve 4/4-feeling results by adjusting the time signature in your DAW to 8/8 (Gross offers intelligent tempo syncing features, including the ability to adjust to different time signatures).

Stylistically the phrases are designed for media composers to create "epic, action, and chase scenes," according to the developer. To my ear, that's a spot-on characterization. Musically, there are many phrases and variations that easily work together across all instrument families, which is a testament to Sonokinetic's compositional expertise. On the whole, there's a treasure trove of driving, dramatic, uplifting, and menacing material to be mined, which I'm sure will make its way onto hordes of reality and action-documentary TV shows in no time (if it hasn't already!).

User Interface Features

While perhaps unconventional, Grosso's user interface offers a lot of functionality without having to dive into any menus or sort through lists of samples. Instead, phrases are presented as "graphic notation," which are shapes that represent the musical score of each phrase. Since there are no descriptive names or specific musical references used to describe the sample material, there's a higher level of experimentation that the user interface encourages, which I found refreshing and creatively stimulating.

However, you can also view the actual notation (see Figure 1), so if you read music, you can easily re-create the sampled phrases using other multisampled libraries. I was able to sequence the same phrases with my go-to multisampled strings to create a more cohesive sound, for example. Also, since Grosso's phrases are primarily a mix of ostinatos and repetitive accompaniment (there's very little melodic material), you'll likely need to employ other sources if you want to create original melodies.

Pressing the Info button (lower RH corner of the UI) toggles a help view that shows an overlay of descriptions for all the different sections of the interface, as shown in our main screenshot. This was very handy as I was getting to grips with Grosso and I suspect many users will rely on it ongoing to help them keep track of all the functionality available from the interface. (You won't get very far without reading the manual, either.)

Now for that Transition Builder I mentioned earlier. This is a separate patch that uses scripting to let you build brass and woodwind crescendos, complete with percussion fills and accompaniment, based on various chords. The results are impressive and I'm sure I'll be putting this to use in future cues when I need cinematic trailer-type emotion.

Conclusions

There's a lot to love about Grosso. It offers a royalty-free and copyright-free license, so you can use it for most music writing projects without every worrying about legal limitations. Its interface encourages creative exploration. The phrase material from the different instrument families combines well to create extremely convincing orchestral passages (after all, the samples are recordings of *real* performances), and there's a level of playability that no other orchestral phrase library can match. ♫

Bottom Line

If you write orchestral cues for deadline-driven media projects and you're okay submitting music that's not entirely original, Grosso is definitely worth the investment.

€299.90 direct
sonokinetic.net

WIZDOM MUSIC

Jordantron

BY FRANCIS PRÈVE

Snap Judgment

PROS Sounds drawn from Jordan Rudess' famed patch library. Large keys and chord mode make performing directly from an iPad viable. Lets you play a secondary patch from an external keyboard. MIDI options reflect Rudess' own performance approach. Audiobus integration.

CONS No menu or pull-down for patch selection makes sifting through presets a bit tedious. Requires 1GB free space for installation.

Bottom Line

The ultimate app for Jordan Rudess and Dream Theater fans.

$9.99
wizdommusic.com

CALLING JORDAN RUDESS A LEGEND IS A BIT OF AN UNDERSTATEMENT. From his pioneering work with prog-metal band Dream Theater to his forward-thinking apps for the earliest versions of iOS, Rudess has remained at the forefront of both progressive rock and synthesis technology for more than 20 years.

Rudess' latest foray into iPad synths is a collaboration with Omenie, makers of the wonderful M3000 virtual Mellotron for iOS (reviewed Aug. '13). The concept behind Jordantron is straightforward: Start with the M3000 architecture, then load it with a 1GB library of Rudess' favorite sampled instruments. The result is quite impressive and musically useful, regardless of whether you're even a prog fan at all.

Here's a quick recap of Omenie's architecture. Up to three simultaneous layers of samples can be blended, then modified via simple controls for volume, pitch, tone, and a basic integrated reverb. The resulting patch is assigned to a dual-manual virtual keyboard with wonderfully large keys, making it possible to play basic riffs directly on the iPad. Since chording on a touchscreen keyboard is always tricky, one of the keyboards can be swapped for a set of 12 configurable "pads," with each pad triggering a different user-programmed chord. In practice, this is a rather elegant way to get the most from an iPad as a live instrument.

On the downside, presets are selected via tapping on left/right arrows for each layer, with no direct menu selection, which is a bit cumbersome. Fortunately, there are 32 "Voicebanks," which are user-programmable combinations of layers and tone settings. In addition to the sample layers, the factory Voicebanks were also designed by Rudess and are astonishingly rich and spot-on when it comes to capturing his trademark sound.

While Omenie's M3000 included basic MIDI features, the Jordantron sports a more advanced complement of performance options, which are accessed via the iOS settings app rather than the synth itself. Here you can customize the behavior of pitch-bend, velocity, aftertouch, expression pedal, and other controllers. The app also includes the ability to assign a fourth preset to an external MIDI controller, allowing you to perform the main trio of blended sounds on the iPad with an additional sound, called "Voice D," assigned to a second keyboard. You can even set up the pitch wheel range to duplicate Jordan's trademark octave dive-bombs.

In addition to the MIDI features, iOS amenities include support for InterApp audio and the Audiobus 1 and 2 standards, making Jordantron a team player for iPad diehards.

It's not often that an artist of this caliber offers their personal collection of handcrafted and instantly recognizable sounds to the world—and certainly not for ten dollars—so Dream Theater fans should leap on this opportunity. Even for those who are unfamiliar with Rudess' discography, Jordantron is a fantastic collection of rich orchestral and progressive textures that fit beautifully into a wide range of styles.

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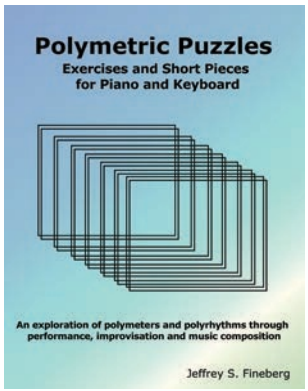

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5 THINGS I'VE LEARNED ABOUT Preparing for a Live Show

BY VONDA SHEPARD

Known the world over for her role and music on the TV series *Ally McBeal*, singer, songwriter, and pianist **Vonda Shepard** has played keyboards and sung with Rickie Lee Jones, Al Jarreau, and Jackson Browne; sold over 12 million albums; and won two Golden Globes and two Emmy Awards. Find out more at vondashepard.com.

PLAYING MUSIC IS PHYSICAL AS WELL AS EMOTIONAL, SO MUCH OF MY preparation for a show involves readying both of those departments. In addition to the following musical tips, I can't stress enough the importance of working out four to five days a week. This kind of raw, sweat-inducing activity helps build up your immune system and release endorphins, while also relieving stress and relaxing your voice and body. Here are five more strategies I still use when preparing for a live show.

1. Keep a Routine

In addition to getting in good physical shape, keep a daily routine of warm-up exercises. As a singer, the most effective method I've found is to begin by humming scales and arpeggios in the shower for a solid ten minutes—the steam really opens up my voice. Then I move on to the piano to practice scales and arpeggios, singing along using closed vowels like "ee" and "oo" and taking breaks every two minutes. I then very slowly move on to more open vowels like "eh" and "ah." This kind of consistent practice regimen works both your voice and keyboard skills into shape.

2. Mind Your Set List

I usually begin practicing alone and working out a set list two to three weeks before I start rehearsing with my band. I really need that time to feel which songs I'm most emotionally connected to. This might mean going back to a song from my first album, or playing a completely new song. Your audience can sense the authenticity and conviction, or lack thereof, when you're playing, so always choose the songs you feel you can infuse with the most soul. That being said, it's also important to balance your set list with both old and new material. I've learned over the years that you can create a "free spot" in your set, where you can play a new song right after a familiar one.

3. Hit the Stage Relaxed

Your show day really begins the night before, so make sure to get some sleep. I usually follow a morning routine of having coffee and breakfast, writing in my journal, and then hitting the gym. But if I'm exhausted from being on the road, I don't hesitate for a second to put earplugs in and take a nap. Then I do a thorough warm-up before sound check with the band. I schedule dinner for three hours before the show so that I'll feel physically comfortable onstage.

4. Know Your Gear

Whether you play myriad electronic instruments or a simple acoustic one, it's important to find and use the gear that best gets your sound across to your audience. For instance, I've designed a very specific technical rider so that no matter where I am in the world, I always sound like myself. These days, I even carry my own piano microphone [the Earthworks PM40T system], which is easy to set up, sounds totally natural, and reduces leakage from outside the piano significantly.

5. Seize the Moment

You don't have to adhere to your pre-determined set list, stage banter, or choreography. Being spontaneous and open onstage is a gift to both your audience and yourself—though it's always good to have a few funny lines and a couple of great stories in your arsenal to break the ice. When I used to play keyboards and sing with Al Jarreau in the 1980s, I learned so much from watching him try out a new rhythmic pattern with his voice in front of 16,000 people. He allowed himself to be in the moment, where the magic truly is. Now when I'm singing a song, I try to sink deeply into it. I push away distracting thoughts and really dig in, even if I've played that song 5,000 times.

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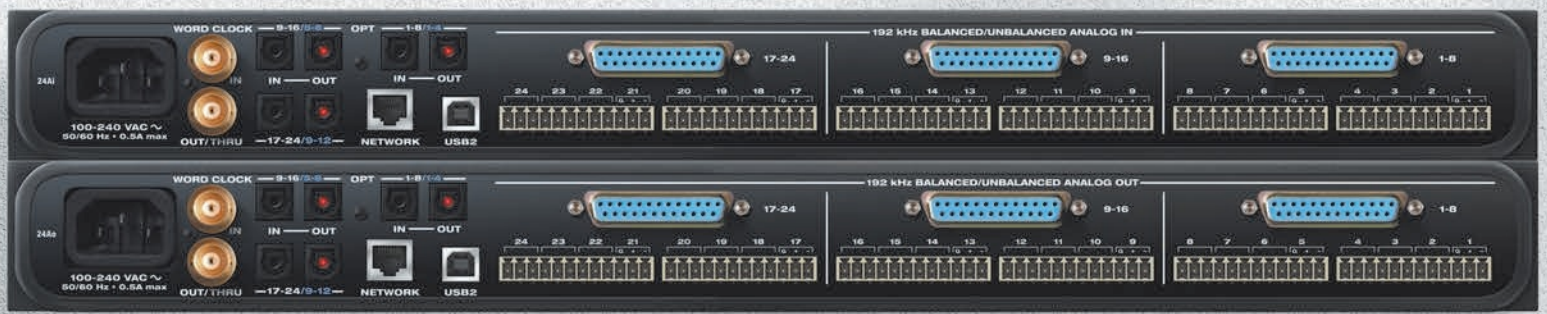

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